COMMITTEE CONFERENCE

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Application for	)	
Certification for the	)	Docket No. 99-AFC-4
MOSS LANDING POWER PLANT	)	
PROJECT	)	
_____	)	

ASSEMBLY ROOM

MOSS LANDING POWER PLANT

HIGHWAY 1 and DOLAN ROAD

MOSS LANDING, CALIFORNIA

MONDAY, JULY 17, 2000

10:05 A.M.

Reported by:
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Contract No. 170-99-001

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P R O C E E D I N G S

10:05 a.m.

HEARING OFFICER FAY: Good morning. My name is Gary Fay and i'm the Hearing Officer at the California Energy Commission. Today is what we call a Committee Conference to give the public an additional opportunity to learn about the mitigation plans to mitigate the potential significant impacts to marine biological resources that the Moss Landing Power Plant Project may impose.

To my left is Commissioner Michal Moore, who is the Second Member of the Committee, that is a subcommittee of the five Energy Commissioners. Commissioner Moore and Commissioner Keese will be making a preliminary decision sometime in August on this matter.

And I just want to emphasize that that preliminary decision will be available to the public to comment on for a 30-day period, so this is not your last chance to comment today on the project.

We also have the applicant's team on my left, and I'll have them introduce themselves in a moment. And to my right is the staff's team, as

well as the Water Quality Control Board. And we may have some other agencies represented here today, as well.

I would just like to begin by going over our plan for today. The applicant has offered to make a site visit available for folks. They can briefly take a turn through the site to show where the new power plant will be built, if you like. But the main focus of the site visit is to look at the intake structure that exists now on the shoreline. And that may help you sort of understand some of the changes that are going to take place.

I understand the applicant is going to show us some schematics or cut-aways of the intake, the way it is now, and the way it will be if the project is approved and constructed. So that will help us understand some of the mitigation.

But, before we go to the site visit, I think it would be best if we had an explanation or summary from the applicant, staff, the other agencies on how they perceive the potential impacts and how they devised a mitigation plan that they think will mitigate those impacts to an

acceptable level.

After we hear from these people I'd like to make them all available for questions from the audience. Unfortunately, we cannot pick up your questions on the record unless you come up to the mike. And we do have a portable mike to make it more convenient, but you'll have to be speaking into a microphone when you address any of us.

Because it's very important to us that your questions be on the record. We have a court reporter with us today so that we can actually capture everything you say, and use it in preparing the proposed decision.

So, we'll have an explanation first; then questions. I think after the questions we'll probably break and take a look at the facilities. The Duke Energy people have offered to provide lunch, a buffet lunch of some kind during that break. And then we'll return and take comments.

I'd like to hold off the comments until we've had all the explanations and taken a look at things so the comments are as current as possible and as well informed as possible.

But to give you an idea of the importance of your comments, while the last

hearing we had here was an evidentiary hearing, a formal hearing to take formal evidence under oath and subject to cross-examination, anybody could have commented at that hearing.

But we're aware that a lot of the information came out just before the hearing, and it really put the public at a disadvantage. So, this was held a month later to give people a chance to digest the mitigation plan that was revised. It was in staff's biological resources errata, which is exhibit 75 in this case.

And that's been slightly amended further, at least one of the conditions has, by an agreement with the Coastal Commission Staff, that I understand the Coastal Commission, itself, has decided to send on to the Energy Commission as a recommendation. So we'll be hearing about that change today.

But all this information was just too new at the last hearing. Also it wasn't fair to expect people to comment intelligently at that time. So hopefully this is that opportunity.

And your comments are important and will be considered by the Committee and the full Commission in evaluating this project.

Now I'd like to take introductions. Ms. Luckhardt.

MS. LUCKHARDT: Hi, my name is Jane Luckhardt, and I'm counsel for Duke Energy today. I'd like to introduce some of the other folks who are here with me. There's Mark Seedall, who most of you probably know. He's Director of Plant Modernization for DENA, Duke Energy North America.

Also up with me today is Dave Mayer. He's President of Tenera Environmental, and is our chief environmental consultant on the water and biological issues.

There are many other Duke representatives in the audience. I'm going to introduce a few of them so you know who they are if you go on the tour or other things.

There's Wayne Hoffman in the back. Wayne Hoffman is the Environmental Manager for DENA. Brian Waters is over here. Brian Waters is a biologist. He's been working on the thermal plan.

Also with us here today is Gene Macrilis. Gene, I don't know where you are. The Plant Manager for Moss Landing. Also from the plant is Scott Flake, Plant Engineer. And also

here today is Kirk Markwold. I don't know where Kirk -- oh, thank you, Kirk. And he's done land use and Coastal Commission issues for us, as well.

And now I'm going to turn this over to Mark to give you a brief description.

HEARING OFFICER FAY: Before we get into that I'd like the staff to introduce themselves.

And then we have Monterey County Supervisor Louie Calcagno, who's here, and we'd like to accommodate his time constraints and give him a chance to address the audience.

SUPERVISOR CALCAGNO: Anytime.

HEARING OFFICER FAY: Anytime? Okay, all right, thank you.

Staff, who do you have?

MR. RICHINS: Good morning, my name is Paul Richins. I'm Project Manager for the Energy Commission on the Moss Landing Project. And I'll let the rest of our team introduce themselves individually.

MR. THOMAS: I'm Michael Thomas with the Regional Water Quality Control Board, San Luis Obispo. I'm the Project Manager for this upgrade.

And we are a permitting agency, and we will essentially provide Duke Energy with a permit

to discharge. And we regulate both the intake and the discharge structures.

MR. ANDERSON: My name is Dick Anderson, and I'm a staff biologist for the California Energy Commission.

HEARING OFFICER FAY: Thank you. And I think we've got some other agencies represented here today. Would any of them like to identify themselves?

MS. JOHNSTON: Deborah Johnston, Department of Fish and Game.

HEARING OFFICER FAY: That was Debbie Johnston? Deborah Johnston, Department of Fish and Game.

And Michele Finn, Monterey Bay National Marine Sanctuary.

MR. FENTON: Larry Fenton, Reform Party for Congress.

HEARING OFFICER FAY: Larry Fenton, Reform Party for Congress.

You'll have to repeat that, I'm sorry, couldn't pick that up. Donna Blitzer with Congressman Sam Farr? Okay.

MS. CHRISTENSEN: I'm Becky Christensen, Elkhorn Slough National Esturine Research Reserve.

HEARING OFFICER FAY: Becky Christensen --

SPEAKER: -- come up to the mike --

COMMISSIONER MOORE: Well, for the introductions I think this is going to -- we'll just repeat them.

HEARING OFFICER FAY: Yeah, probably the easiest. From the Elkhorn Slough National Esturine --

MS. CHRISTENSEN: Christensen.

HEARING OFFICER FAY: All right, Supervisor Calcagno, would you like to wait until initial presentations, or would you like to speak --

SUPERVISOR CALCAGNO: I'll wait until after the --

HEARING OFFICER FAY: Okay, fine. Well, then I think we'll go ahead and hear from the applicant first. And then the staff.

MR. SEEDALL: Good morning, my name is Mark Seedall. I'm Duke's Director of Electric Modernization, and I've been working on this project since late December of 1998.

I don't want to do a long presentation. We're pleased you could come today, certainly the

greatest amount of interest we've seen in our project since it began.

We did have an open house where we had over 650 people attend in the spring of 1999. So now, as we near the end of our project, we're pleased to see that more participants are coming in to give further comment.

I want to just briefly give you an idea of how we went ahead, or have been proceeding with this project.

And in particular, the power plant, itself, has had seven units. Five of those units are no longer operating, units 1 through 5. Those were 600 megawatt units that are in the long turbine hall here near the coast. In fact, the intake system for them, as we'll describe later, is right behind the building here and goes out to the harbor.

And for whatever reason, Pacific Gas and Electric Company shut those units down a number of years ago. And even though there is a critical need for energy in the state, and that's almost 600 megawatts that was shut down, that again discharged into the Elkhorn Slough.

In terms of conceptualizing our project

one option would have been to have modernized within those existing areas where the turbines are today. And to have continued to discharge into the Elkhorn Slough and re-use the system that has been here for almost 50 years.

However, our thinking on this was to look for the very long term at the power plant site, and in particular how to minimize environmental impacts, both to water and to air, and other visual considerations, for example.

And so the thinking was to put a new modern plant on the site, to remove it further from the coast, to avoid the Elkhorn Slough, and to create a new low-impact environmentally preferred type of site, which is what the new units will do.

And so that's been the program. We've located the site and we hope that -- out towards the tank farm area, and we hope you'll take the time, it shouldn't take too long, a little bit later to go and visit just briefly out there to see where the tanks -- where the new plant's going to be.

In addition, in the context of this project I think it's important that everyone

understand that there's a great deal of change being proposed for the site, which we believe is largely beneficial.

In particular, we're going to be removing 19 fuel oil tanks, all of the oil tanks on the facility, which is 6.5 million barrels of fuel oil. The site will no longer burn fuel oil ever again.

We're going to remove the eight 225-foot stacks that are here near the coastline. We are going to add four smaller stacks for the new units, which are 145 feet in height.

In terms of the clean-up of 6 and 7, there is a program that will start later this year to reduce the emissions from units 6 and 7, in what they call a selective catalytic reduction project, or SCR project, which will dramatically lower the air emissions from those two units, and will also reduce the noise from those units.

Again, as I mentioned before, the new units are located further from Highway 1. We are going to do a number of road improvements, both to Highway 1 and along Dolan Road, consistent with our application.

We're going to provide an easement to

Caltrans to provide for ultimately a four-lane highway, if that can ever be done. In addition, a bicycle path, an improved bicycle path. I'm a big cyclist, and I hope someday we can get that actually in. But that would be along Highway 1 in front of the power plant.

In addition, we're going to provide funding support a boardwalk off of Sand Hole Road in the Moss Landing harbor. We're going to provide funding to support trails in the Elkhorn Slough.

We're supporting the North County Fire District, in particular, with some support for their services. We're going to dramatically increase the property taxes from this facility to the County. In addition, we also pay a gas franchise fee, and we're going to be paying, of course, more gas franchise fees as the plant operates perhaps more, the new plant in particular.

And we're going to use local work force and materials to support the construction. And we're also going to relocate -- as you'll see today on the tour of the intake -- there's a marine mammal center there. We're going to

relocate that towards the center of the plant in a location, again another location for that.

So all of these enhancements are a part of our project, and were part of our approach. And we've been looking from the beginning to try to make the power plant better. Try to improve the site and to modernize it in a truly, I think, exceptional way.

In the context just briefly of the -- I'll just mention briefly the marine mitigation aspect. I was involved with that, along with other members of the Duke team. And really this mitigation aspect, all I want to say is really it was the end of a very long process.

The company agreed early on to conduct extensive studies, both in the harbor and the slough, and in Monterey Bay, to look at effects of the power plant on the area. And that's been going on for a very long period of time.

And we, of course, have been relying heavily on the Regional Water Quality Control Board and their experts, who I believe are leading experts in the world at large in this kind of study, to help us understand this material.

And in addition to Dave Mayer here, who

we hired, has also extensive experience doing these kinds of studies. It was also conducted in the context with the California Energy Commission, with their experts as well. The Coastal Commission was there.

And so we feel as though this is just the very end of a very long process. And I believe we feel, given all of the other benefits that the project offers, this is just one additional aspect of a very important beneficial project.

And that concludes my remarks.

HEARING OFFICER FAY: Anything further, then? Okay. Paul.

MR. RICHINS: I'm going to talk about what we actually did in the realm of biology, focusing on the marine aspects. And some of you will get bored because I've been over this. Some of you have kind of heard how we ended up where we ended up.

But I think for those of you who haven't heard that discussion, or weren't at the evidentiary hearing, or possibly haven't read the errata, FSA errata, or read it and didn't understand it because there were too many strike-

outs or whatever.

I'm going to talk about four things. I'm going to talk about the technical working group briefly. And then I'm going to talk about analysis. I'm going to talk about the mitigation and how we arrived at the mitigation. And then I'll talk about, a little bit about the way we plan to implement that mitigation for the benefit of the slough.

Mark Seedall mentioned the technical working group. I think the technical working group was originally formed by Duke Energy and the California Central Coast Regional Water Quality Control Board.

Duke, of course, attended and hosted most of those meetings. Dave Mayer, their consultant, attended. Michael Thomas attended these meetings for the Regional Board. And the Regional Board had two consultants that were faithful attenders. One is sitting back here, Dr. Greg Cailliet. At least he was back there. Yeah, there's an arm.

And Pete Raimondi -- and Greg is a Professor at the Moss Landing Marine Lab. Pete Raimondi, who will be here somewhere around noon,

is a Professor at UC Santa Cruz.

The Energy Commission, myself, and my predecessor, Marc Sazaki, who was the original biologist on this project and is retired now, attended. And we have a consultant, Michael Foster, who is not here today, but he also is a Professor at the Moss Landing Marine Lab.

Fish and Game was in attendance at almost all the meetings, Deborah Johnston introduced herself earlier, was the person that was there most often.

The California Coastal Commission, I saw Michael Bowen come in. He attended a number of those meetings. And I don't think any of us made them all, but anyhow we -- that was essentially the core of this group.

And the group has been meeting for over a year, and met about monthly. And the tasks that it had were to identify the types of studies that needed to be done to estimate impacts and effects from the cooling water intake system.

The group was put together to design and produce a 316(a) and 316(b) study which are a study that is required in order to get an NPDES permit, a National Pollutant Discharge Elimination

System permit.

And Michael Thomas could discuss this in more detail if you want to understand the Clean Water Act and how the Regional Board looks at their permit, and what's required for their permit.

But we also needed this information at the Energy Commission for our analysis.

And so this was the group that put this together. We were involved in designing the types of studies that needed to be done. We were involved in reviewing how the analysis was done. And then the results.

And essentially there was work done on thermal discharge, how large will the plume be, what will the plume look like, what do we feel the effects will be.

There was work on the entrainment portion of the cooling water system, the water being drawn in; and then in association with that, there was work on source water, what species and what things occur in the source water to get a feel for what's being taken through and lost due to the cooling water system.

For the analysis portion of this, you

can break it into three central effects. One is thermal effects, there's impingement, and there's entrainment.

Impingement is when things are -- when the water velocity is such that it carries fish and other creatures and kind of traps them against the screen with a force so that they can't leave. Many of those would die.

Entrainment is simply the things that make it through the screen, which is 3/8 inch in diameter, and get carried; and these are mostly small things such as fish larvae and other small primary productivity of the source water which, in this case, is predominately the slough and the harbor, with Monterey Bay coming in. These things get entrained through the power plant and are lost.

The intake structures are in the harbor. Michael's going to point at them.

MR. THOMAS: The intake structures are located here in the harbor. And Dick was just mentioning the traveling screens. An impingement occurs on the screens in front of the intakes. There are screens, traveling screens, in front of those intake structures to prevent debris from

going inside the power plant with the cooling water.

I just wanted to point that out that there's a difference between impingement and entrainment.

Entrainment is the larvae which is suspended in the water column going in through the intake structure. It goes through despite the screens because the screens only screen out larger fish and debris; the larvae pass through.

MR. ANDERSON: The characteristic of the screen is such that if it's too small it just clogs up immediately. So, the size of the screen is about as small as you can get on this project and still allow water to pass through it.

So, we had to look at these three effects. Impingement was not considered to be a significant effect because the velocity, approximately .5 cubic feet/second, a little less than that, was below the level which would hold anything that actually had some life and could kick a little bit against the screen.

So the feeling was that in the past impingement study there was very little effect. And since the velocity of the new power plant

would be reduced, it would not represent a significant effect.

The thermal discharge --

MR. THOMAS: The traveling screens in front of the new intakes are going to be modified to reduce the impact that is occurring. There is an impact there, but the technical work group, the biologists that are in the technical work group felt that the impact was not significant or important. Nevertheless, the intake screens are going to be modified to reduce the amount of fish that are impinged.

MR. ANDERSON: And the thermal discharge is offshore approximately 600 feet from the shoreline. There's quite a bit of wave action, a lot of mixing.

The feeling is that it's very difficult, first of all, to identify an effect in this particular location to fish and other things, things on the bottom. The bottom is mostly a sand or a soft bottom; it's not a rocky, kind of inter-tidal area where we may expect more things to grow.

We discussed a number of ways -- first, there was a general feeling amongst the

professional people involved that the location of the discharge, the amount of water being discharged, and the temperature of the discharge probably would not be significant. And that was the feeling that we had all the way through, although it's very difficult to actually monitor what's occurring.

And in a number of discussions we went from trying to design monitoring programs after operation to determine the effects, to realizing that it would be just about hopeless. There are too many other variables occurring in order to isolate the power plant.

The slough, itself, heats up and the tidal flow in and out of the slough brings warm water. There's a dredging operation that apparently dumps the dredge material on the beach. It covers -- it gets dissipated by the energy in the wave action, but it also covers the floor of the ocean in that area.

And these things especially made it very very difficult, and I guess, we all said impossible, to determine what the true effects would be.

MR. THOMAS: I'd point out where the

discharge is actually located. It's right here. You can see the boil right here. It's near the exit for the Elkhorn Slough and Monterey Harbor waters.

So the warm water from the discharge does combine with the warm water from the -- the naturally warm water from the slough.

MR. ANDERSON: So, in general we know there will be effects from the thermal discharge, but none of us felt there would be significant.

Entrainment was different. Entrainment essentially the volume of water that was carried through the power plant would carry anything in it that couldn't swim away. And there were all kinds of things in there.

The research used fish larvae, because of the size, they were a size that in their test netting would collect, where some of the things such as crabs and clams were too small. So fish larvae were used as a proxy, I guess, or as an indicator of the type of productivity that would be lost from the slough due to entrainment.

MR. THOMAS: Some crab species were also included at the request of the Department of Fish and Game. Deborah likes to remind me of that.

MR. ANDERSON: In looking at the results of the work that was done by Duke, there was a listing of percentage of fish larvae found. That was in relation to the source water sampling. So it was felt that this was the proportion of fish larvae that were being entrained through the power plant in relation to the other work that was done to get estimates of source water fish larvae and other things from offshore, from within the harbor and throughout the slough.

I can't remember exactly, but it ranged from maybe 6 percent to 18 percent. The average of that was 13 percent.

So I used 13 percent as the average fish larvae loss. Now this doesn't identify -- or it doesn't differentiate that some species may be more valuable or more useful for certain things. But many of these species, the majority of these species were slough species, slough and harbor species. And so we decided to concentrate mostly on effects to Elkhorn Slough and the harbor versus offshore, which were represented by a few fish. And the few that were, were probably nursery fish that were using the esturine situation for a nursery.

Now we are faced with a how do we get from a loss of productivity in Elkhorn Slough to a way to mitigate for that loss. We weren't aware of any information that identified, for example, an acre of wetland produced this much fish larvae, you know. How many acres did we need, or what type of situation, how much of an enhancement or improvement to Elkhorn Slough did we need to reduce the effect or enhance the slough by 1 percent, or reduce the effect by 1 percent. Nobody knew that.

Very difficult, if you look at all the land uses and all the things going on in the slough, to identify total effects on the slough.

The figures we were dealing with were not, there was a lot of room for argument on both sides. Duke maintained that the power plant had been operating for 50 years. Up until 1995, the original units 1 through 5 had been operating, along with 6 and 7. They were taking more water than the new units 1 and 2 and existing units 6 and 7 will take.

So they were saying that they're actually improving what historically was occurring at the slough. We were saying that, look, these

units 1 and 2 are new units, and we're going to try to address the effects of those new units.

So we struggled mightily with how do we change productivity, a 13 percent loss of productivity. You've got to remember we're using 13, an average of 13 percent of eight fish species as identifying productivity for the slough. We have no idea what we really were losing from the slough in terms of productivity, because we have no way of quantifying the productivity of the slough.

But we all agreed, the group of agencies, that if we took this 13 percent loss of fish larvae, average loss of fish larvae; and if we looked at the Elkhorn Slough and harbor, which had approximately 3000 surface acres, that maybe if we used that percent of 13 percent of that 3000 acres, ended up with 390 acres, and if we could somehow use that 390 acres, the value of that in terms of enhancing the slough, -- I hope I'm not confusing you.

The 390 acres we looked at, let's say if we improve the slough by 390 acres worth of wetland, we don't know if that 390 acres worth of wetland means 13 percent worth of fish larvae. We

also didn't feel there was any way to ever determine that, because of all the covariants, all the other things that are going on in the slough system.

We did feel strongly that by improving the habitat or the quality, enhancing the productivity of the slough through a number of methods, that we, in some respect, would be mitigating the impacts.

So we used that 390 acres and we used reasonable values of $12,000 to $25,000 per acre for enhancing or recreating wetlands. Now, if you're creating wetlands where they've never been, it's very expensive. If you've got existing wetlands that can be enhanced with less intensive operations, the price comes down.

We relied heavily on Pete Raimondi who will be here later and hopefully in time when questions are asked. He's had experience in this area along the California coast. He felt that that wasn't an unreasonable range per acre.

You've got to remember, we didn't destroy wetlands with this project. We're only using 390 acres as kind of a jump from fish productivity, or productivity to a way to identify

an amount for mitigation.

So, 390 acres times $12,000 and times $25,000 per acre gave us a range of 4.5 -- or 4.8 million and 9.2 million, something like that.

We held a workshop with the applicant. It was a publicly noticed workshop, although I don't know that many of you were here. The agencies were represented. Other than -- the Monterey Bay Marine Sanctuary wasn't there at that meeting.

And from that we agreed on $7 million as being a reasonable amount to mitigate for losses in the slough. And this money would be used for enhancement and improvement in the slough. It could be used for purchase of land; it could be used for enhancements on existing land; restoration of existing land; reductions in degradation occurring, which might be erosion control or -- there's a lot of dairy farms, there's a lot of things going into the slough. And there's many ways that it could be improved, the quality could be improved.

So that's how we ended up with the $7 million. There are a lot of points where we used best professional judgment that we could. We

spent quite a bit of time on this. And it's very difficult to --

One of the issues was how can you determine that you'll effectively mitigate the losses. And there's several answers to that. One is first of all, what are the losses. Very difficult to quantify those losses.

With the dairy, the junkyards, the agriculture, all the other things, the homes, the other things that contribute, probably through erosion and other sources of pollution or whatever we want to call, into the slough, it's very difficult to ever -- what would we monitor for to determine effectiveness.

And if anybody understands trend analysis we know it's going to take 10 to 20 years to monitor anything to ever figure out significant difference between any one year. And trying to pinpoint that or attach that to a source of effects, or improvement, would be very difficult.

MR. THOMAS: Can I jump in?

MR. ANDERSON: Yes.

MR. THOMAS: I just wanted to back up a couple steps. Our process, the Regional Board's process is very similar to the Energy

Commission's, but I wanted to back up a little bit.

Of the three areas that could have impacted the environment, and they are impingement, entrainment and the thermal effects, the work group felt that if there's an impact it's coming from entrainment.

And so our job was to somehow quantify what that impact was. And the approach that we took was to take the percentage of larvae that was being destroyed or taken from the source water body.

So we had to define source water body. We defined the source water body as being the Elkhorn Slough system. And then we did a study to determine how much larvae is being taken into the power plant and how much larvae is available in the Elkhorn Slough system.

And that's where those percentages came from. The calculations show that the average is about 13 percent, 12 or 13 percent for all the species for the Elkhorn Slough system.

So the new units are going to be taking approximately that percentage, 12 or 13 percent, from the system.

Now we're left with that, and from there we say, so what, what does that mean. We have to convert that into something.

Now, before we convert it into something we have to ask ourselves, are there things that Duke Energy can do to simply eliminate that impact. Can they do technological fixes to the system to eliminate or greatly reduce that impact. And there are things that they could do.

They could have, for instance, built cooling towers. That's probably the most common method, or commonly considered method for eliminating impacts from power plants that use once-through cooling.

The problem with that is it's extremely expensive. For this particular case I think the values were in the range of $50- to $60-million to build cooling towers. And it's a massive, massive structure that would be located right here on site. So we thought that was too expensive to deal with the impacts that were occurring.

So that leads us into other considerations. And the other considerations are mitigation.

Now, we created a problem for ourselves

immediately when we converted that 13 percent into acres of habitat. As soon as we did that there were folks who said, well, then Duke Energy should go out and create 13 percent of 3000 acres, which is around 400 acres, they should go out and create 400 acres of wetlands. That wasn't our intention.

Our intention was to put a value on a mitigation package. One of the boundaries here is the technological fixes, one of the dollar boundaries. And that's, like I said, up to $50 million.

Now, we said we weren't going to go that route, we were going to go mitigation. So we had to decide what's a reasonable amount. And we have to come up with something.

Initially, Duke Energy proposed a mitigation package that was $1.8 million. And then we went through this process where we tried to come up with what we thought was a reasonable value. And as Dick pointed out, we converted the percentage into acres.

And we came up with a range of value per acre for restoring wetlands. And that range can be from zero up to the high that we came up with,

I think was $180,000 per acre, which there are actually cases where it cost that much, but it was in southern California.

The San Onofre Nuclear Generating Station was required to -- well, Edison was required to create 160 acres of wetlands to deal with the impact from that facility. And unfortunately for Edison they found out after they agreed to do it that it was going to cost an incredible amount of money. And I believe that the price tag for that now -- Michael Bowen is here and he can speak to this better than I probably, but the price tag for that mitigation package now I believe is $117 million.

And it's because purchasing land in southern California right on the coastline is extremely expensive, some of the most expensive real estate in the world. So they got themselves into a quagmire over that case.

That wasn't our intention here. We never intended to have Duke Energy in the wetlands restoration or land purchasing business.

What we wanted to do was come up with a dollar value for a mitigation package, and then apply that in the best way possible in this area,

in the Elkhorn Slough watershed.

So, we came up with what we thought were reasonable values for this area on a per-acre basis. And it was $12,500 to $25,000 per acre. And that translated into roughly $5- to $10-million.

And so we went to Duke Energy and negotiated with them. They maintained that $1.8 million was reasonable. We maintained a higher value than that. And we eventually settled on $7 million.

So I just wanted to give you a little bit of background about how we got to that point. There were actually several steps and technological fixes were one of those steps.

HEARING OFFICER FAY: Dick and Michael, could you just briefly summarize, besides the costs of cooling towers, are there also associated environmental impacts?

MR. THOMAS: Impacts associated with cooling towers?

HEARING OFFICER FAY: Yes, if they were to use cooling towers.

MR. THOMAS: There would be the construction project, itself, and where you would

locate that facility. There would be an overall impact there as far as to where is it going to go, and how much space is it going to take up.

And then there are emissions from the facility, itself. I think that the main ones there are sult, sult drift I think it's called. So there would be impacts, biological impacts and impacts to the community property from that sult drift.

HEARING OFFICER FAY: And visual, as well, because you'd have the structure plus the plume, I take it?

MR. THOMAS: Yes. There would be a plume associated with it. You'd be able to see it. And as I said, it's a huge facility.

MR. SEEDALL: Mr. Fay, we might also point out that there is a tremendous amount of energy which is needed to run the cooling tower, just so you know, which would be an ongoing impact because somewhere else the power would have to be made up. That couldn't be made up by using the ocean water.

HEARING OFFICER FAY: Okay, thank you.

MR. THOMAS: I wanted to point out also that there are assumptions in our study, the

entrainment study. One of the assumptions is that all of the water that's being taken into the power plant comes from the slough system. It doesn't come from the slough system. Some of it comes from offshore.

But in order to be conservative we considered the Elkhorn Slough system to be the source water body. So, in that sense we're over-estimating the impacts.

Another assumption is that there's 100 percent loss of all larval organisms that pass through the power plant. That's probably a conservative assumption. We use it anyway. Again, we're going to err on the side of protection.

And there are other assumptions in the equations and in the process that we went through. We tried to err on the side of protection. So there is a built-in bias on our part to, I think, over-estimate the impacts. That's part of the reason why we have the independent consultants that Mr. Seedall mentioned earlier.

The Regional Board has been hiring independent consultants for these projects, like the Diablo Canyon, Morro Bay, Moss Landing Power

Plant Projects because we want to make sure that not only that the science that is done is the best that can possibly be done, but also that we're reasonable.

And believe it or not, agencies sometimes require businesses or dischargers to do things that are unreasonable and that don't make any sense. So, part of the reason why we have these consultants is to make sure that the work that we do is reasonable and that the results are reasonable.

So I think the process we went through in this case, which was about a year and a half of technical work groups, with these consultants attending every single one of them, I think the process was good, and I think our results are defensible.

HEARING OFFICER FAY: So while all the members of the technical working group that Dick mentioned did not attend every meeting, the hired consultants did?

MR. THOMAS: Yes. We had two consultants, as Dick pointed out; and the Energy Commission had one consultant. And you know, some of them were there at all the meetings. And

everything that was written was reviewed by all of the consultants. We went through many many iterations of study plans and then final reports. So everything was reviewed ad nauseam.

HEARING OFFICER FAY: Okay. Dick, did you have something further?

MR. ANDERSON: Yes. So now we agreed on a mitigation amount, now we have to make sure it works, make sure it does the best we can with that for the slough ecosystem.

And the way we intend to do that is put together a group of folks. If you had $7 million how would you use it?

(Laughter.)

MR. ANDERSON: Put together some experts; talk about goals and objectives; and what are the best things, what are the needs of the slough; how can we enhance it. What are the worst problems it's got that may be corrected; what are the most important parcels of land that need to be protected; what needs to be enhanced. What needs to be done. Those are the first steps in any beneficial use of this money for mitigation.

That's what we proposed. And that will take about six months. It will include the

agencies that identified themselves in terms of the Coastal Commission, Fish and Game, the Regional Board, the Energy Commission, Duke may have a representative. We may want to have a representative of some of the environmental organizations.

We can't have too many people or we'll end up with, you know, a giraffe instead of a horse, but the intent is that -- and we can have an initial meeting or two where everybody, you know, groups this size talk about ideas.

Eventually it needs to be honed down by a number of people; and then the Elkhorn Slough would take that. Produce a written report, this is the plan. That would be reviewed by anybody who wants to review it, and go through as many steps, hopefully just one or two review processes, for an approved plan.

The plan would talk about everything that's going to be done. How the money's going to be managed; how we're going to monitor for effectiveness of the work that's done or the mitigation efforts. And then we do it.

So, we've got a little bit of work to do on this, but we're trying to protect the funds and

do the best we can with the funds.

So that's the plan.

MR. THOMAS: I just wanted to point out from the Regional Board's perspective this money for this mitigation project, it has to go toward addressing the impacts to the slough.

So, the funds, as we are setting up the criteria and the process, the funds will have to be used for the purchase of habitat. That can be habitat that is adjacent to the slough, or directly adjacent to the slough system. Or it can be upland areas that would result in a benefit to the slough.

So that's the first thing, the number one priority is acquisition.

The second priority is restoration of existing habitat. And that's what the funds, as far as the Regional Board is concerned, are going to be used for.

And as I pointed out to Duke Energy, if these funds somehow get shifted to other things, like hiring people, or to doing studies, hiring government staff, or buying cars, or doing different things, if this money gets used for other things, then there's a chance that Duke

Energy will not be in compliance with their permit. So, then we'd have to enter into another round of negotiations with Duke Energy.

And so we want to see these funds go towards terra firma; actually purchasing and restoring habitat.

And as you all know, I cited at the last meeting, and it's in our draft permit, out discharge permit, we want the Elkhorn Slough Foundation to help us manage these funds.

And the last time I think I gave the impression that we were going to hand the Elkhorn Slough Foundation $7 million. And that's not the case. I've talked to our legal staff extensively about this, and we're going to take the same approach here that we've taken in other mitigation cases.

We're going to put the money into an escrow account where it will earn interest. There will be escrow instructions associated with that account. And there will be criteria, and a process for using those funds.

We do want the Elkhorn Slough Foundation to help us manage those funds, to implement the Elkhorn Slough Conservation Plan.

So that's the direction that we're headed in. As Dick pointed out, the Energy Commission is considering an advisory group -- would that be a good term for it --

MR. ANDERSON: Um-hum.

MR. THOMAS: -- and we're open to that. We think that's fine. You know, we would participate on that and welcome other participation.

I would be concerned about the size of it. I think it should be a very small group, a focus group to provide input to the Regional Board, the Energy Commission and the Elkhorn Slough Foundation.

But I want to point out that the direction we're going in is habitat, is acquisition and preservation.

HEARING OFFICER FAY: Okay. At this time it might be helpful if somebody from the Coastal Commission could come up and bring us up to date. I understand they met last week. Is Michael Bowen here?

MR. BOWEN: Yeah.

HEARING OFFICER FAY: Michael, could you come up and just speak into the microphone and

bring us up to date on the status of the Coastal Commission's review.

And then after that I'd like to hear from a representative of the Elkhorn Slough Foundation as to how they see their role in implementing this mitigation plan.

MR. BOWEN: Thank you very much for the opportunity to come here today. My name is Michael Bowen; I'm with the California Coastal Commission.

Our Commission met last week and approved our letter which will be submitted either this afternoon or tomorrow to the California Energy Commission.

And I think what I'd like to do is just read a passage from it that I think encapsulates the sentiments of our Commission.

HEARING OFFICER FAY: Sure.

MR. BOWEN: The Commission has consistently taken the position that the provision of monetary value, money alone, is not necessarily adequate compensation or mitigation for the loss of biological resources.

The Commission's approach has been to

call for a process that identifies adverse impacts on biological resources for the life of the project; identifies the compensation or mitigation to be required; identifies goals and objectives to be achieved to satisfy the required compensation or mitigation; insures that performance measures are established; provides for independent monitoring to determine if performance measures are being met; and insures that if necessary appropriate remediation is undertaken.

All costs of compensation or mitigation, monitoring and remediation are borne by the project applicant.

The currently proposed mitigation package provides funds, only $7 million, which is of concern to the Commission because the amount to be required may or may not be sufficient to fully meet the compensation or mitigation requirements to offset the adverse impacts on marine biological resources from plant operations."

I think what I'd like to do is step back a moment and express, on a personal and

professional level, my support for the way in which this review process occurred.

I think that Duke assembled a fine and highly qualified body of technical experts. I think that the Energy Commission and the Water Board Staff, particularly given the time constraints set by the Energy Commission, performed admirably and assembled a coherent cogent body of information.

And this information, as Dick has explained, was used to attempt to establish some sort of program for mitigating project impacts for the life of the project. This is a concept that Commission Staff and the Commission, itself, supports.

I think where we diverge, though, is with the concept that establishing a pot of money in lieu of ongoing protection and maintenance of public trust value is simply insufficient and inadequate.

And so that's, I think, philosophically where we part ways. But that is not to indicate in any way a lack of support, or participation in the process.

HEARING OFFICER FAY: If I can ask some

questions. Now my understanding is that notwithstanding the concerns that you've expressed, that the Coastal Commission Staff and the Coastal Commission have supported language that is sort of a compromise between the Energy Commission's proposed condition and your recommendations.

And so there is now language that both the Coastal Commission Staff and the other agencies agree on for the mitigation, is that correct?

MR. BOWEN: No, I don't believe that's correct. Which language are you referring to?

HEARING OFFICER FAY: Well, I have a draft here, and I was told that that was a draft of the letter that's going to be sent in. And it shows modifications to the various biological conditions.

And it includes the $7 million, but makes changes such as extending the period for the goals and objectives and performance standards to be identified instead of prior to licensing, prior to operation of the plant.

So, there's a longer period where the scientists and the agencies can work out the

details, how to implement this mitigation plan.

MR. BOWEN: Well, the Coastal Commission Staff met extensively with Energy Commission Staff and Duke last week. And we resolved a number of differences in the language within the letter that we intend to submit.

I think where we agreed to disagree, and this is with extent to Duke Energy, as well, is with the concept of establishing a cap and establishing, if you will, a pot of money in lieu of the ongoing protection and maintenance, or mitigation with a clear nexus in proportionality for the project impacts for the life of the project.

COMMISSIONER MOORE: Let's make sure we're reading from the same letter. The letter I'm looking at is a draft, July 12th, addressed to Commissioner Keese.

MR. BOWEN: Um-hum.

COMMISSIONER MOORE: And is that the one you have, the July 12 letter?

MR. BOWEN: Well, mine has been updated so much since then over the weekend, but more or less the same --

COMMISSIONER MOORE: All right, and what

Mr. Fay is referring to is on page of 9 of 11, paragraph literally third one. It says, and I quote:

> Following the certification of the Moss Landing Power Plant Project, the project owner will provide the $7 for mitigation compensation in a special interest-bearing account.

I don't find in this letter a reference to any other cap or sliding up in scale. So, perhaps the version that you're working with has something that reflects what you've just indicated to us?

I realize your remarks are informal or we'll consider them as such until a final letter comes to Commissioner Keese and myself, but am I looking at something that's older than the letter you're referencing?

MR. BOWEN: I'm not sure, and I think it would be necessary to compare them. I can, if you wish, read into the record the three bullet points which I think best highlight our condition -- or our proposed amendment to the condition.

HEARING OFFICER FAY: Is that essentially the meat of the recommendation from

the Coastal Commission to --

MR. BOWEN: Yes.

HEARING OFFICER FAY: -- the Energy Commission? Okay, why don't you do that.

MR. BOWEN: Sure.

In order to mitigate for the loss of productivity within Elkhorn Slough attributable to the operation of the Moss Landing Power Plant, California Energy Commission Staff shall draft and execute, in consultation with the County of Monterey, Central Coast Regional Water Quality Control Board, California Department of Fish and Game, California Coastal Commission and the Monterey Bay National Marine Sanctuary, hereinafter signatories, prior to the operation of the modernized Moss Landing Power Plant, an agreement which shall include, but not be limited to, the following:

Identification of specific goals, objectives and performance standards for the provision of at least 390 acres of wetland within the greater Elkhorn Slough Complex; or identification of specific goals, objectives

and performance standards for the provision of alternative mitigation projects designed specifically to mitigate or offset identified project-related impacts to marine resources.

Second: "Identification of fund management protocol and provision for an endowment adequate to accomplish short-term and long-term administration, management, maintenance, monitoring, research and annual operation expenses, cumulatively management, for mitigated properties in perpetuity."

Lastly: "If monitoring shows that performance standards are not being met then remedial actions must be taken to achieve the goals and objectives identified in the agreement."

And I guess, Commissioner Moore, that would be our interpretation of language indicating that the restoration of 390 acres, as identified as a form of proportionality, would be necessary to achieve mitigation goals.

And that remedial measures would have to be borne by the applicant.

COMMISSIONER MOORE: When your Commission was listening to this what were the

metrics that your staff presented to the Commissioners that would have indicated to them that the $7 million was not likely to be sufficient to cover expenses?

I'm clear on what you think ought to be in there, and frankly have no disagreement with the elements that you cite, but I'm a little puzzled because I don't see in here a reference to something that suggests why $7 million or any other number is inadequate.

MR. BOWEN: Certainly. A fair question. I think we don't profess to be able to foresee whether it would be too much or too little.

Our experience has been that historically wetland restoration is a very expensive business. Michael Thomas mentioned the Songs project. I think fortunately for everybody involved this is a very different project.

Nevertheless, it has been our experience that wetlands restoration costs in the area of $100,000 an acre. And so with that concern expressed for the, I believe, you know, the multiplier of $12,000 to $25,000 an acre, we are concerned, and the Commission is concerned that this could be inadequate.

COMMISSIONER MOORE: Okay, I don't want to put you further on the spot for elements that your Board would make a judgment on, except to say that in clarifying this for my own mind, what you're telling us is you think we ought to have some sort of loophole in here that would allow us to revisit the amount somehow. You're not suggesting what that ought to be, or a different lache. You're simply suggesting this may not be enough and we need to have a little bit more open-ended condition?

MR. BOWEN: I don't know if I would express it quite like that. I think what I would say is that in terms of procedure the mitigation needs to be established with clear objectives, and that it's the applicant's responsibility to meet those objectives.

The cost is not the Coastal Commission's business.

HEARING OFFICER FAY: And just to clarify, also, it seems like in the first bullet that the Coastal Commission is acknowledging that it's not, per se, 390 acres, because they have the "or" identification of alternatives.

So, if, for instance, some money was

spent, instead of purchasing acreage, to terminate a pollution source, to stop a pollution source, that would be considered part of the mitigation as well?

MR. BOWEN: Well, not necessarily. If a specific action is taken simply to reduce further degradation that is resulting from another party, we would not view that as mitigation for the project's ongoing impacts.

HEARING OFFICER FAY: If --

MR. BOWEN: For example, providing a strawberry farmer with a new means of irrigating to reduce runoff into the slough is worth, it's beneficial. But it is not directly related to the project's impacts.

And what our Commission is seeking, I think, through this proceeding is a clear nexus and proportionality for the mitigation. And simply establishing a pot of money to do good works does not necessarily accomplish that.

HEARING OFFICER FAY: It sounds like there's a question, also, about whether simply adding acreage is the same thing as mitigating for entrained species. In other words, none of these things are exact.

MR. BOWEN: That's quite true. And I think one of the benefits in this proceeding has been a collection of a great deal of information and analysis conducted by all the agencies which should be continued, hopefully with the input of the technical working group, to move into the future with plans that will identify ways to mitigate project impacts for the life of the project.

HEARING OFFICER FAY: And the Coastal Commission will be involved in forming those plans?

MR. BOWEN: We would certainly like to, yes.

HEARING OFFICER FAY: Okay. I heard you mention it, as one of the agencies that would be involved, so obviously you'll have an opportunity to influence. Mr. Markwold.

MR. MARKWOLD: Kirk Markwold from California Environmental Associates.

I think, to go back to the question of whether or not there would be alternative ways to restore that type of biological function other than buying lands, I think that that's clearly, if I understand the Coastal Commission's perspective,

in some cases that may not work. And in other cases it might.

And clearly the experts, the technical people who are going to be close to it, close to the slough, understanding how you get the biggest bang for the buck that has a nexus to the project is what I think there's a uniform and unanimous support for.

How that works, and how to sort out those metrics I think we'll rely on the Committee to do that. But we're committed to finding that, because we think in some cases that will be the best way to restore biological function.

HEARING OFFICER FAY: And when you say the Committee, you mean this advisory group --

MR. MARKWOLD: The Energy Commission's effort, the five agencies, as well as other members of the public being involved in sorting that out.

HEARING OFFICER FAY: Okay.

MR. BOWEN: Just to reiterate, though, and this is -- and I would like to state for the record, as well, because I think there's been some confusion on this matter.

One of our chief concerns, and has been

a chief concern since the workshop, is that setting a specific amount for mitigation may preclude a mitigation program that has a specific nexus in proportionality.

And that remains our concern, and will remain our concern till this proceeding is concluded.

COMMISSIONER MOORE: Point's taken.

MR. BOWEN: Okay. We don't want to exclude the metrics before all is said and done.

COMMISSIONER MOORE: I promise you we won't.

MR. BOWEN: All right. Can I answer any further questions?

HEARING OFFICER FAY: There may be questions from the audience later, and we hope you'll be available to respond.

MR. BOWEN: All right, thank you very much.

HEARING OFFICER FAY: Okay, thank you.

Is there a representative from the Elkhorn Slough Foundation who could briefly summarize what their role may be in this mitigation plan?

MR. SILBERSTEIN: Good morning,

Commissioners, my name is Mark Silberstein. I'm the Executive Director of the Elkhorn Slough Foundation, which is a community-supported conservation organization working here in the central part of the bay.

You know, this is an interesting position to be in, the contemplation of a large flood of resources to help us with the work we're doing. And I guess what I want to make real clear is that acting as a land trust, which the Elkhorn Slough Foundation is, we really aren't commenting on or in a position to determine whether some number is an adequate mitigation or not.

And perhaps the best analogy is that we've built a vehicle, it happens to be an amphibious vehicle, that travels on conservation roads.

You guys figure out how much gas is put in the thing. We're going to drive down that conservation road as far as we can.

So, I'm not here to determine the adequacy of the mitigation. For us, as far as the nonprofit is concerned, the Elkhorn Slough Foundation, we rely both on the staff from the agencies involved, and the scientific review

panel.

One thing that we have done over the past several years is really built, as I suggested to you, a conservation machine, I hope, and I hope that it's an effective one.

Since 1992 the Elkhorn Slough Foundation has managed the Nature Conservancy's properties here in Elkhorn Slough, which total 800 acres. And in the last three years we have acquired an additional 700-plus acres in Elkhorn Slough of protected lands.

So currently the Elkhorn Slough Foundation manages the largest conservation holdings in the Elkhorn Slough watershed.

We've worked very closely with the National Esturine Research Reserve. And Becky Christensen, the Manager of the Reserve, identified herself earlier. We have a very close partnership with the state and federal governments who are working to protect the natural resources of Elkhorn Slough.

In 1999 -- I guess I should back up a little bit and give you a perspective. You asked for a short piece; I'll try to keep this short.

But there's a long history of work in

Elkhorn Slough, both research and conservation. And, you know, my goal here is not to -- I have a difficult position. I don't want to appear to be self-serving. Regardless of whether this funding comes to the Elkhorn Slough Foundation, or some other agency, or some other group, the Elkhorn Slough Foundation is on the conservation path.

And we've been effective at competing for and getting funds for conservation from other sources. So, you know, again, my goal here isn't necessarily to say give us $7 million. It's to say, here's our capabilities, here's the vehicle we've built. If the process, if the public, if the agencies feel that this is the best vehicle to get to the conservation value that they want, we're happy to serve in that function.

But I'm not here to argue for money.

HEARING OFFICER FAY: If I may ask, what I heard described, it sounded like you're not going to get a check for $7 million. In fact there'll be lots of advisors suggesting the strings on that $7 million.

Are you willing to work with the advisory group or panel that would represent the agencies and look out for the way this money is

spent as mitigation --

MR. SILBERSTEIN: Clearly, you know, as a nonprofit with a 20-year history in Monterey Bay and working in Elkhorn Slough, we've administered millions of dollars, approaching probably $15 million over the last 20 years, both for on-the-ground acquisition, for research programs, for education programs.

We comply with all the federal rules and regulations when we get federal money; with the state rules and regs when we get state money; and with private restrictions when we get private money.

So, any nonprofit that's in business for that long is used to taking on those strings --

COMMISSIONER MOORE: I think Mr. Fay's question is a little more complex than that. What he's getting at is you've got a Board that you work for, and you have a Board with a mission and a long track record, at least as long as I was in Monterey County, a long track record of doing good work.

But you're faced with having to work with a set of experts, or a set of other technical referees, if you will, who will be giving advice

and attaching that advice to some strings.

And I think Mr. Fay is simply looking for, and the Committee, myself and Commissioner Keese, will be looking for some assurance that it's going to be a pretty seamless working relationship. Looking for you to comment on that.

MR. SILBERSTEIN: Yeah. So the answer is yes.

COMMISSIONER MOORE: Good.

MR. SILBERSTEIN: I mean --

COMMISSIONER MOORE: That's the right answer.

(Laughter.)

MR. SILBERSTEIN: We work with, you know, agencies with the state, the federal and the local governments. So, you know, that's what we do.

I would hope, as Mr. Anderson said, that the Committee will have the kind of people on it who have the conservation focus and who are problem-solvers.

I think that, you know, if the process proliferates and winds up being so ponderous that we're spending money on something other than on-the-ground conservation and restoration, my

enthusiasm will probably wane. And I think the Board's will, too.

But just to give you a little perspective and sort of what the Energy Commission and the Regional Board asked of us, so that, you know, I want to make sure that everybody here has an understanding of where we're coming from.

We worked, again, in concert with the Elkhorn Slough National Esturine Research Reserve, which is a partnership between the National Oceanic and Atmospheric Administration and the California Department of Fish and Game, and lots of local interests.

We worked with them, with Monterey County, with the Reserve Advisory Committee in 1989 to develop the first Elkhorn Slough Wetland Management Plan. This was certified both by the Coastal Commission and the County. And for ten years this served as a blueprint for conservation work in Elkhorn Slough.

I'm pleased to flip through the back of this and go through the recommendations and see that a lot of the things that were outlined here have been accomplished. And I think successfully so.

In 1993 we worked again with the National Esturine Research Reserve, the California State Coastal Conservancy and Monterey County, and again, a whole host of other agencies and inputs to develop the Morro Coho Slough Wetland Management and Enhancement Plan.

This was approved, I believe, by the County in 1994, and I'm not sure whether it has been subsequently -- 1996 -- adopted by Monterey County Board of Supervisors 1996. So this, now, is a guiding document for the work going on in Morro Coho Slough, which is an approximately 1000-acre wetland system that comes into Moss Landing Harbor from the south.

In 1999 we worked with that same constellation of partners, including the Nature Conservancy, lots of other folks, and developed the watershed conservation plan for Elkhorn Slough. This plan was publicly noticed through the state clearinghouse, and subsequently adopted both by the California State Coastal Conservancy and the California Coastal Commission.

I think this was a document that brought the Energy Commission and the Regional Board to our door. This plan, again a publicly circulated

document,a nd now available on the web, at elkhornslough.org, this document really outlines strategies for long-term protection of the natural resources of Elkhorn Slough.

And this essentially is the agenda that the Elkhorn Slough Foundation, along with our other partners, with the National Esturine Research Reserve, the Nature Conservancy, the Packard Foundation and others, is in the process of implementing right now.

So, my sense is that this, you know, is sort of where we're coming from. I'm not here to promote power plants or race tracks or any other kind of coastal use. We're here to do conservation work in Elkhorn Slough. If this is a good match, we'd love to do it.

All the resources that we get, any resources that come through the Elkhorn Slough Foundation, set up with the proper administrative structures, will go to on-the-ground conservation.

COMMISSIONER MOORE: Is that report docketed? Do we have a copy of that in?

MR. ANDERSON: We have a copy and we can docket it. It hasn't been.

MR. SILBERSTEIN: Again, it's on the web

at elkhornslough.org.

COMMISSIONER MOORE: Do you have any objection to having that docketed during the hearing? We're not in a position to do any of that today, but let's just make sure it gets into the docket when it comes in. And I'd like to see a copy.

HEARING OFFICER FAY: And, for example, this is just by way of example, might it be that the advisory group that is deciding how this $7 million should be spent, might go through the plan and select certain things that you have yet to do on the plan that they think fits within their guidelines of a nexus for mitigating the impacts from the power plant project?

MR. SILBERSTEIN: I mean that would certainly be one approach and one use of the plan. But I certainly wouldn't preclude other good ideas. This plan is not the end-all and be-all. This is just the strategy of a lot of folks who got together and said what are the critical issues facing Elkhorn Slough today; what are strategies that we can do right now today to insure long-term protection.

So there may be a lot of other good

ideas out there, and I wouldn't be so presumptuous as to think that everything was captured in this document. But, you know, clearly, if it's useful, let's do it.

HEARING OFFICER FAY: All right.

MR. SILBERSTEIN: You know, I hope that I can reserve a little bit of time to perhaps respond to questions or concerns that are raised subsequently if that's --

COMMISSIONER MOORE: Actually we'd ask you to do that.

MR. SILBERSTEIN: Okay.

COMMISSIONER MOORE: We're going to go on the tour and then people will come up and talk, and they may have questions for --

MR. SILBERSTEIN: Great, thanks. Any other questions for me? Thanks very much.

MR. THOMAS: Mr. Fay, I'd like to just point out a couple things if I could.

I want to emphasize that the Elkhorn Slough Foundation did not come to us when they heard about these funds. They heard about the funds through us, we went to them, based on their track record and work that we've done with them previously.

And the approach that we are taking on other power plants, and with this one, as well, is that the very best thing that we can do as far as mitigation goes, is permanent ecological preservation of habitat. So, with that in mind we went to the Elkhorn Slough Foundation.

And another thing I wanted to point out is that this relates back to what Mr. Bowen was saying about the $7 million cap, and leaving that open, that maybe it will cost more than that to actually do adequate mitigation. I like the idea of having a set amount that a group of experts come up with, because that, to a large degree, requires us to be responsible and competent.

And if it is open-ended then agencies can tend to be less stringent in how they do their work, develop the criteria or implement the project, because it is open-ended. So I like the idea of actually having a cap on it.

And the last thing I wanted to say is that this advisory group that we're talking about, it has to be a functional group from our perspective. What I mean by that is not dysfunctional.

There are cases where these groups are

set up and it can create -- it can become an obstacle to actually doing the kind of work that was intended in the first place.

So I think that we have to keep that in mind, that what we want is a functional group that helps us achieve the goal of conservation.

HEARING OFFICER FAY: And maybe you could clarify something. In terms of the $7 million, it's my understanding that $2 million of that is an endowment, and only the income from that will be used for ongoing work in perpetuity, is that right?

MR. THOMAS: That was one of the things we discussed, and I believe it's described in the Energy Commission Staff report. And I don't have a problem with that. I would be flexible in that actually I would want to work with Mr. Silberstein on that, and ask him if that is the way -- the adequate or the best way to go in achieving conservation.

And we did talk about it initially. And we talked about the value of an endowment where the income from that would be used. And I think that is a highly valuable item to have in there.

And we didn't actually specify that in

our permit, but we're certainly open to that. And I do think it's valuable.

HEARING OFFICER FAY: Thanks. All right, what we'd like to do now, we're going to hold off questions and we will allow everybody to question all the commenters. And then after the questions are all heard, to give their comments.

But, first, we want to take a brief tour and have lunch. The tour will give folks a chance to actually look at the present intake structure. And I think maybe someone from Duke will be along to explain how some things will be changed in the design. Yes, sir?

MR. SEEDALL: What I thought we might do is actually Scott Flake is going to lead us down to the marine mammal center. I don't know whether you want to take just a minute and show the schematic before we go.

HEARING OFFICER FAY: Okay, let's do that.

MR. SEEDALL: Just so people know what we're going to be looking at. But we might want to divide the group just in two, because it's a pretty sizable group, and have just one group go quickly in the buses if you'd like, out to just

see where the plant's going to be. That should only take about 10, 15 minutes. And then we'll exchange groups. And lunch will be back here in the room after you have a chance just to walk to the intake and then just quickly see the plant site.

COMMISSIONER MOORE: Mark, hold it. What do you need, Roberta?

MS. MENDONCA: I didn't introduce myself this morning, and I just wanted to --

COMMISSIONER MOORE: Oh, I'm sorry. The woman in the bright yellow jersey is our Public Adviser. And she's here. She's an independent agent, she's independent from the Commissioners.

And she's here just to be able to help the public get involved in the system. So, if you have questions about what we do, or the report that we'll publish, we'll process, Roberta's the one to help you with that.

MS. MENDONCA: Thank you.

COMMISSIONER MOORE: Thanks. Sorry.

HEARING OFFICER FAY: Before we break it might help if we saw the schematics so we have a concept of how the intake structure is going to change.

MR. FLAKE: My name is Scott Flake. I'm an engineer here at the power plant. And I'll be leading the tour at the intake structure.

First I want to show you what the intake structure looks like today. That's a little bit better.

What we have, out at the harbor is we have an intake structure where we bring cooling water in to cool the power plant. We have a series of what we call stop-logs.

They're large metal screens that keep large objects like logs and things like that out of the tunnels.

The water then goes underneath Highway 1 and into the pump area where we have some large vertical traveling screens. And I'll show you those. They're right on the other side of the building here.

And currently that's the operation of the power plant since approximately 1950. That's the current use of the plant.

And the side view is water coming in here, taken from the lower portion of the harbor at approximately .7 to .9 feet/second. Traveling along this approximately 350-foot tunnel, through

these large vertical traveling screens, and into the pump well where the pumps will then transport the water into the power plant.

What we're proposing to do -- the proposal is to bring water in through the current structure, through the existing bar racks, and move the traveling screens that I showed you earlier, out to the actual harbor inlet.

What this will do is prevent any kinds of fish or other animals that can get through the large bar racks from actually entering into this long tunnel and perhaps getting lost or losing their way, and not being able to make it back out.

They'll be stopped right at the harbor entrance and they'll be able to go in and out into the harbor without entering into this large 350-foot long tunnel.

The pumps will remain. We'll be re-using the existing pump well. And in addition the screens will also be changing.

The new screens will be, instead of vertical as we showed earlier, they'll be on a horizontal -- well, now everything's on the floor, that's perfect --

(Laughter.)

MR. FLAKE: They'll be inclined. What this does is it reduces the velocity of the water being taken in to approximately 0.46 feet/second, and that allows fish and other animals to swim away. They can swim against that type of a current.

And then it also is more effective at removing anything like seaweed or anything that might get on the screens. It's more effective at removing those materials from the screen because, as you can imagine, as the screen clogs up the water velocity increases.

And so this is a much better system. It's much healthier for the organisms and the animals that have to interact with it. And that's the proposal.

And what I'm going to do today is I'm going to show you the old structure, and then we'll walk out and we'll see where we actually take water in from the harbor.

There will be a second tour, also, with buses because we can't take everybody out to the intake structure at one time.

Fellow engineers, Kathy and Mike in the back of the room, have some small buses and

they're going to take you out to the approximate area where the new power plants are going to be constructed and bring you back here.

And we'll be doing both tours simultaneously so we can move people through very quickly.

And then when everybody gets back from the tour there will be lunch here in the assembly room.

HEARING OFFICER FAY: Just to add some order to this, then, what I would ask is that everybody on this side of the room, my right, your left, please take the first tour down to the intake structure.

And the people on this other side, my left, your right, if they chose to, get on the buses and see where the new proposal is going to be. And then you can change.

And I understand lunch is back here right afterwards, correct?

MR. FLAKE: That's correct.

HEARING OFFICER FAY: Then we'll reconvene after folks have had a chance to eat, and deal with your questions and your comments.

MR. FLAKE: Okay, the first people going

to the intake structure, please meet me on the side of the room.

(Whereupon, at 11:45 a.m., the conference was adjourned, to reconvene at 1:00 p.m., this same day.)

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AFTERNOON SESSION

1:00 p.m.

SUPERVISOR CALCAGNO: Thank you very much for this opportunity. I probably should have started off first thing this morning. A lot of the things that I -- comments that I had to make were pretty well addressed, but in the meantime I've got them prepared, so we'll go through the process.

My name is Lou Calcagno, Chair of the Monterey County Board of Supervisors. I'm a former Chair of the California Coastal Commission, and have served 18 years on the Monterey County Planning Commission; charter member of both the Monterey County Agricultural Land Trust and the Elkhorn Slough Foundation.

But most importantly I have lived on the edges of the Elkhorn Slough and have been an immediate neighbor east of the power plant for 64 years. I'm here to report my experience and observations of life on the slough during the length of that time.

But before I do that I might say that during this current permit approval process that Monterey County has been working with Duke, and

found them to be making significant efforts to be responsible and cooperate. They cooperate with the residents of north County.

It's been a good experience for the County over the past year and four months that the County has worked with Duke. They have cooperated both in our governmental affairs in the County and with the community here locally. They've been basically indicating to us that they're good neighbors.

There's no doubt that there's concern about the temperature of the exhaust cooling water, given the increased flora and fauna appears to be based on assumptions, while the impact may be negligible.

We cannot allow ourselves to narrowly interpret suspicions about possible negative impacts about either the outfall or the intake. Correlation between possible negative impacts of the power plant and the general health of the flora and fauna are not direct or conclusive during the 50-year period of life of the power plant operation, though not necessarily because of them.

Sea otters have been gone from a

population of zero to approximately 90 breeding pairs at the present time Harbor seals have gone from over 10 to a current number of 300. We have seen herons and egrets increase from zero to over 150 breeding pair.

This could not happen if the environment for them to survive was declining. On the contrary, it is improving.

I will say that during this timeframe there was hot water from this plant being basically put into the Elkhorn Slough directly. And it didn't seem to have any bearing at all on the life of either the seals or any of the other wildlife.

My experience on the Coastal Commission has shown me that open-ended studies without specific mitigation focus is basically becomes an unworkable situation. And I agree with the gentleman from the Water Resources Board this morning that having specific mitigation with a due date is possibly the only way you can make sure that things get done, they get done properly and most efficiently and everyone knows what they're expected to do.

Open-ended, all we end up doing is

debating and having a lot of public hearings. And I think in the end we find that we don't get the things done that we really wanted to get done in the beginning.

The ag land trust for Monterey County is currently working with the Elkhorn Slough Foundation to manage a strawberry demonstrating farm use best management practices to keep chemicals out of the slough.

The Foundation has been a full partner to bring the Morro Coho Slough back to health. They have acquired the Long Valley property to further protect impact to the slough, and obtain final approvement of the Elkhorn Slough wetland management plan.

The County is also working to supplement the Elkhorn Slough progress by creating the Elkhorn Slough watershed plan to be incorporated into the Monterey County general plan. And we're working on that at the present time.

In order to monitor any possible impact, the prime candidate for the rehabilitation and enhancement and protection of the slough is the Elkhorn Slough Foundation. Their record of protection is without parallel.

The Elkhorn Slough Foundation is basically a part of this community. The community feels very confident in the work that they do. And that's important, because in this community it was very difficult to get the farm owners, the business owners to become part of the plan to restore the Elkhorn Slough, and to be part of the community.

And when the state came in and bought what used to be the Elkhorn Dairy, everybody became paranoid of the outcome of what was going to happen.

The Elkhorn Slough Foundation was immediately set up and put in business to bring this to an end, and by taking people from part of the community, and not only the environmental community, the research community, the farming community, all those different entities have a part in the Elkhorn Slough Foundation.

The credibility of the Elkhorn Slough Foundation is great in this community. And if we were going to do any mitigation work that would be surely the place where we would want to put it.

Now, in closing I will say one thing. As you probably know, this is the leading

agricultural county -- one of the leading agricultural counties in California. We produce some 80 vegetables.

The Salinas Valley, basically the watershed runs from the south to the north. The Moss Landing Harbor area, for many many years, for centuries, was the mouth of the Salinas River.

Why am I telling you that? Because this is a salt water intrusion area. And definitely to go out there and try to create 400 more acres of wetlands and put salt water on top of that, all we're doing is contaminating our groundwater. And if -- that groundwater is very dear to this community, and that we are on some of the most expensive ground in the world.

The Blanco ground, which we call the Blanco area, right at the mouth of the former Salinas River, to Salinas, is worth in the neighborhood of $35,000 or $40,000 an acre to sell for farming uses. And there isn't any for sale. It rents for $2000 an acre a year for farming. And the taxes are paid beyond that.

We can't afford to have that ground not produce. And we can't be in a position to have salt water intrusion in that ground. We are

trying everything we can now to keep it away from there.

But by incorporating, if it came to the point where mitigation was to create 400 acres more of saltwater habitat, new one, that would be very detrimental to the agricultural industry. And I urge you, surely, don't go that way.

The correct way would be the way in which you are going, and is to go with the Elkhorn Slough Foundation, and through their works of encouraging better farming practices by buying some of the grounds that are causing the majority of the erosion problems and by helping farmers and teaching them, and becoming better farmers so that they don't allow chemicals and sediment to get into the slough, has proven over the past to be some of the best ways we can, environmentally we can use to protect the Elkhorn Slough.

Again, it's a pleasure for me being here. And I'm sorry, I'm a little bit on the nervous side here today, I just got over two days of flu and I just pulled myself out of bed to make it here.

Thank you.

HEARING OFFICER FAY: Thanks a lot for

coming.

All right, what we would like to do now is open it up for questions from the audience to any of the panelists. And after the -- what I would like to ask you to do, though, is please limit it to questions so that we can concentrate the comments at the end, after all the information's been heard. And the transcript will have all your comments in one place.

So, any questions? Yes, sir. Please identify yourself first, and then ask your question.

MR. CURLAND: Jim Curland with Friends of the Sea Otter. And my question is to Mr. Anderson. As far as the biological resources errata on page 26 the BIO-8 condition of certification, what was the rationalization to strike that?

MR. ANDERSON: I'll have to look at it.

(Pause.)

MR. ANDERSON: That condition referred to post-operational monitoring for impingement and entrainment on the new units 1 and 2.

And it was felt that the work that was just completed on entrainment for units 6 and 7

was sufficient, and that there would be no additional information gained from doing that monitoring than what we had already.

And instead of doing that monitoring we asked that Duke provide $750,000 for the mitigation fund which was part of the $7 million.

So we gave that up. And anybody here on the panel can help me explain this, but the feeling was since the problem was determined to be an entrainment problem, and it's movement of volume of water, that it's fairly simple to look at the different volumes of water that would be occurring from the existing information for 6 and 7 to the new units 1 and 2.

And that estimates could be made, reasonable estimates of the effect. And, in effect, that's what the average of 13 percent fish came about, fish larvae loss came about. We used the -- or Duke used the volume of water and reduced it by -- used the proportion of what units 1 and 2 would be entraining.

Also, I think -- well, I'll let anybody else answer, contribute to that if they want to.

DR. RAIMONDI: I'll add a little bit to it. My name's Peter Raimondi, I'm a consultant

with the Regional Water Quality Board. I'm at UC Santa Cruz, a professor in marine biology.

I just want to reinforce what Dick said. The idea behind the entrainment sampling was to get a long enough survey so that we could make projections about what the entrainment effects would be as a function of the amount of water that was being passed through the plant.

And we designed the study so that it would go through at least one complete year so that we could capture the entrainment over all the seasons where different larval species might be coming in.

The idea then is that if we capture it over an entire year then it's a simple volumetric calculation to project what it would be under different operating conditions.

This was based upon the work that had been done at Duke, and also similar work that had been done at a series of power plants up and down the coast at San Onofre and Diablo, and at other power plants where they have been able to use this information collected in one or two years and make projections about future years.

And based upon that and the mitigation

package that Duke offered, the $750,000, we thought that the value was in the $750,000 and not in continuing the monitoring beyond that point.

HEARING OFFICER FAY: All right, other questions?

MR. DILWORTH: This is David Dilworth from Helping Our Peninsula's Environment.

We're got a couple questions about the process, including today, as well as the substance. We're going to submit a letter.

First of all, why didn't you have an agenda? Every other public meeting we go to needs an agenda.

All of us are busy people. Some people thought this meeting was going to be over by noon. And I expected to be back in my office by 1:00. And we're not even taking public comments until after 1:00.

This setting, why did you use this setting? Here we are, completely within the public arena, no, not really. We're in the midst or the heart of Duke Energy with all their propaganda, the appropriate word.

Second, why is Duke Energy up at the table with you? The way I interpret that is that

they're holding hands with you. Don't like that in terms of the public process. This looks to be an objective public process, rather than the public, interested public in the audience, with Duke Energy sitting up there literally next to you.

And the last one, in terms of process, is questions only. We're filing a complaint with the district attorney because the City of Carmel recently restricted questions to questions only. This meeting is governed under the Brown Act, the open meeting law. And you can't restrict comments to questions only.

I realize you're going to be taking comments later on. Maybe there's some convenience here, but all together this is a systematic -- this is a very awkward systematic setup, this meeting. I'm not at all pleased with the way this is set up.

I have a couple of specific questions. I want to know if you quantified the environmental impacts from air cooling. Air cooling towers and water cooling towers.

HEARING OFFICER FAY: We'll take your first -- are those questions, the first --

MR. DILWORTH: Those are --

HEARING OFFICER FAY: -- the first group?

MR. DILWORTH: Those are phrased in the form of a question so I can get a loophole around the rules that you've set up. But they are questions.

COMMISSIONER MOORE: Well, I'm pleased to answer them. And, of course, the beauty of what we've set up is that you can stand up and ask questions in the form of a loophole to try and get around the procedures that we've set up. And are doing so in an open public forum.

I'm sorry that you set your day up so that you were going to attempt to be out of here by noon, but that, of course, is one of the beauties of the process that we run, which is a very open and very extensive public process, designed to allow everyone, including you, to have their say, however informed or uninformed it may be at the end of the day.

And my take on whether or not we should restrict this to a process that would be over by noon, it's an interpretation. We're here to serve the public, we're here to make sure that everyone

is heard. It's taking more time. We're certainly extended out beyond the deadline that the Committee set up when we originally decided to hold these hearings, and I think that's all to the good. The community is better served because of it, even if we have to go into evening, that's the way we'll go.

Why there's no agenda. There is only one topic here, and that is the topic of the marine biology. And, frankly, to have issued an agenda for that and used up a lot of paper to do it probably would have been seen as self-defeatist. So we didn't -- everyone's here with the same topic in mind, and we're covering to the best of our ability.

As to whether or not we're in collusion with anyone by being in the proximity because of the nature of the room with any of the people that are appearing in front of us, then I'm offended, as I probably should be, that you would make that kind of a remark in public. It's about as ill-serving as anything I've heard as a public servant.

Thank you very much. You've obviously seen the report that I haven't written yet. So,

you want to offer that kind of a comment about whether or not we're self-serving, or serving the enemy, or anyone else, why don't you wait until we publish our report, and comment on that.

As to whether or not we're in the improper public forum, this happens to be the site where people can see what's proposed. It's neutral ground in the sense that when we're here as public servants, we're here to listen and offer any independent opinion.

And anyone who thinks that we're not can talk to the district attorney; you can talk to anyone you like. But in the end you're going to talk to me, or you're going to talk to my boss, who is the Governor, and you want to make allegations about the way we conduct the process, you'd better back them up with facts.

Because we're here in the most impartial way that we possibly can be. We're here to listen to every single one of you, and take your remarks, even yours, into account. And we will do that.

If you've got questions that are technical in nature, we're going to take them first because it's easier for our stenographer to understand them.

When we open it up for comments at the end, and those comments we have never restricted anyone from having comments about the process, my personality, my viewpoints, Duke's personality, we don't restrict it in that way. We don't let anyone slander anyone else, but there's certainly a procedure that's logical in this.

And hopefully it condenses everyone's time into an area that they can make the best use of it.

So, you have technical questions that you'd like to ask the panelists who are here, you're certainly free to do that. Following that, when everyone's had a chance to do that, we're going to open this up for comment. And then all of this, including the kind of allegations that were just made, are fair game.

HEARING OFFICER FAY: Okay, Mr. Dilworth, your questions.

MR. DILWORTH: Thank you, Mr. Moore. I guess a follow-up question to you would be why did you suggest that I wanted to restrict this meeting when I didn't?

In terms of technical questions, how many gobies are killed per thousand gallons that

you pull in, or per million gallons?

MR. CAILLIET: The answer to that question is contained in the --

HEARING OFFICER FAY: Could you --

MR. CAILLIET: My name is Greg Cailliet, Moss Landing Marine Laboratories and I'm a consultant on the ichthyology part of the entrainment study for the Regional Water Quality Control Board.

And the data you're requesting are contained in the 316-B study, which is public information. And the number of gobies is listed as under the total entrainment of table 6-30, among other places, including all the raw data which are in that report.

And the unidentified goby category was about 2.7 times 10 to the 8th, gobies; the bay goby, lepidigobius lepidus, which is identified to species because we can do that, is 1.5 times 10 to the 8th.

The black-eyed goby, choryphopterus nickleseye was 1.6 times 10 to the 7th. Longjohn mudsucker, the lichthysneurabalis, 8.0 times 10 to the 6th.

And those are the gobies that were

entrained that could be identified as larvae during the year-long study of the entrainment.

MR. DILWORTH: This is per minute, per hour, per year, per project?

MR. CAILLIET: That's per year.

MR. DILWORTH: So about 10 to the 8th, what is that in English for people that don't understand?

MR. CAILLIET: One and then eight zeroes.

MR. DILWORTH: Which is?

MR. CAILLIET: A hundred million.

MR. DILWORTH: A hundred million gobies will be killed per year, is that about what you said, or 2.7 --

DR. RAIMONDI: These are larval forms. These are not adult individuals.

MR. DILWORTH: And how about the gobies, themselves?

MR. CAILLIET: What about the gobies?

DR. RAIMONDI: You mean the adult forms, is that what you're asking?

MR. DILWORTH: Right.

MR. CAILLIET: Zero. There are zero adult gobies entrained in the power plant. These

are larval forms that range between 2.8 and 5.0 mm total length. That's less than -- about a quarter of an inch long.

Impingement, I don't know about impingement.

DR. RAIMONDI: We can tell you, all this information is in the 316-B report. Those of you that have it can turn to the page, it's 528, and there it's listed what the estimated impingement was. This was in 1980. There was no impingement studies that have --

MR. DILWORTH: They're -- right in --

DR. RAIMONDI: Sorry, there are no impingement studies that were done during the current study. We used the estimates that were based on research that was done in the 1980 surveys during the period of like volumetric. And so those are all listed in terms of exactly the way you're asking it, volumetric-wise.

So, as an example, we have -- there were no gobies taken during that period. There were a lot of other fish that were taken, but no adult gobies.

MR. DILWORTH: Well, what fish were taken in the largest numbers per species?

DR. RAIMONDI: Anchovy. The numbers at that point were on the range of about a little over a thousand per day.

MR. DILWORTH: A thousand a day, okay. Back-flushing, how did you analyze that in terms of when the system has to be -- have the hot water back flushed clear?

DR. RAIMONDI: That wasn't the purview of this study.

MR. ANDERSON: That's not going to be occurring with the new power plant.

MR. DILWORTH: No back flushing?

MR. ANDERSON: No.

MR. DILWORTH: Is that a condition of approval?

MR. ANDERSON: Isn't it true that this is not going to be continued as it was with PG&E?

DR. MAYER: That's correct.

MR. DILWORTH: And that sounds like it, when you push the water out where it came in to clear --

DR. MAYER: No, we don't do that. We maybe have confusion over terms. There is a plan, has been in past use, heat treatment. That is where the water's recirculated back through the

power plant, doesn't go back out in the harbor, it comes in.

It's recirculated through the power plant to raise the temperature of the water to kill the organisms that are lining the conduits in the cooling water system.

That's important for the operation of the power plant because as the barnacles, which is one of the organisms, grow too large, they fluff off, and the shells actually plug up the tubes in the condenser. So, that's a form of bivalent control.

If by back flushing, it's a term I've heard, but it has occurred where the water from that process has either leaked over or spilled over into the harbor. And that's not supposed to happen, and that's a condition of the permit that prevents that.

MR. DILWORTH: We just heard from one of the engineers on our tour that there was a back flushing and the hot water did go back out into the harbor. And they had some problems with exceeding the NPDES permit.

DR. RAIMONDI: I think that was a condition; it's been corrected.

MR. THOMAS: That's true, that was a problem. It did occur in the past. And it's not allowed under their permit. Duke Energy is not doing that practice any longer.

MR. DILWORTH: Okay, thank you. I also understand that the water's exceeded 90 degrees in your exhaust at times when you dump it overboard, it exceeds the 28 degrees that you've set as a goal. The NPDES permit gives you a certain limit. What mitigation, what follow-up, what penalties are there when you exceed the permit and the amount predicted?

MR. THOMAS: If you're talking about back flushing --

MR. DILWORTH: No, no, no, just regular output. The water that comes out of this plant is going to be considerably hotter than the water that goes in.

MR. THOMAS: Right.

MR. DILWORTH: When you exceed that limit that you've set for a condition or regulatory permit, what penalties are there?

MR. THOMAS: Well, if they exceed that limit then they could be fined by our office, and it could be done on a per-gallon basis. In the

law there are numbers. I think it's up to $10 per gallon of discharge.

So that's a fine that our Regional Board could assess. And those numbers are so high that oftentimes the Board, if they do assess a fine at all, it will be something less than that.

HEARING OFFICER FAY: Mr. Dilworth, could you just ask one more question right now, and then hold the others till later so we can give other folks a chance, and we'll come back to your other --

MR. DILWORTH: I'd like to give the other folks a chance. I'm glad everybody's here. I'm actually thrilled to see everybody here.

We have a lot of questions about this. I guess our first and biggest one is who would be the lead agency that we would sue to enforce the stopping of the piecemeal of this project? Monterey County is doing several negative declarations on part of this. The Energy Commission is doing one part. There may be other permits that we don't know about. May even be Monterey Bay National Marine Sanctuary permit and an Army Corps permit.

Who would be the lead agency that we

would sue under CEQA? Who's the lead agency, so that this is all done under one non-piecemeal environmental review?

HEARING OFFICER FAY: The lead agency under CEQA for this project is the California Energy Commission, under CEQA.

Now, there are federal permits involved, as well. But this project, keep in mind, does not include the tank demolition, the SCR, that type of thing.

So, this project means the definition of the project, that is the new units 1 and 2 and associated parts.

Now, what I'd like to do is have you hold the rest of your questions until later and we'll go to some of the other people who, I know, had some --

MR. DILWORTH: I just have a follow-up. I remember Mr. Moore from when he was Supervisor of Monterey County, and the tone of his remarks is identical to when he was a supervisor.

COMMISSIONER MOORE: Consistent.

(Laughter.)

HEARING OFFICER FAY: Ms. Nichols, I think you had questions?

MS. NICHOLS: Hello, my name is Vicki Nichols, and I'm the Director of Research and Policy for Save Our Shores. And thank you for having this meeting.

I have some comments that I will submit in writing. And Kaitilin Gaffney, who is with the Center for Marine Conservation, will be summarizing those.

So right now I'll just ask my one particular question. Under the original biological resources section you described the cumulative impacts as significant and requiring mitigation.

However, according to the errata, if units 1 and 2, and units 6 and 7 operating at the same time are considered a cumulative impact, they would be considered significant. But the assessment does not consider all of the units operating together.

Can you please explain why that is so?

MR. ANDERSON: That's my testimony. There was some disagreement on the term cumulative effects. And under CEQA what is considered baseline information and an impact. And since the power plant had been operating for 50 years, we

were addressing units 1 and 2, and there was concern that units 6 and 7, since it's been here and existing and operating for a long time, instead of some project that will be built and developed, as exactly how to state cumulative effects.

And so what I did was I tried to still get my feelings out that if all the units were considered together there would be a cumulatively significant effect.

The bottomline is since there's a significant effect, since I determine there to be a significant effect for entrainment, the whole project has a significant effect, whether it's indirect, direct or cumulative.

It may not be as clear there as I would have liked it, but that was the thinking. The thinking was if we use existing -- what's been happening for a long time as the CEQA-baseline for impacts, then units 1 and 2 stand by themselves.

Other things that will be built soon in the future would be considered cumulative effects.

You can disagree with that, and we can discuss that, but that was why I did that.

MS. NICHOLS: And I recognize your

answer. You're right, I do have some problems with that, especially since it's associated with mitigation. And I would encourage the Commission to rethink that and maybe have some additional discussions.

There are significant impacts, you are coming up with a mitigation plan to address those impacts, and it's almost as if you are ignoring a portion of the problem.

So, since we know that they're significant, we feel that the unit 6 and 7 should be calculated in, at least for the mitigation element of this project.

Thank you.

MS. GROOT: What I'm not clear about is --

HEARING OFFICER FAY: Would you identify yourself, please.

MS. GROOT: Henrietta Groot from the Coastal Alliance on Plant Expansion. We are an organization from Morro Bay, we came up from Morro Bay. Our group was formed by a group of concerned citizens in response to the Duke project for plant expansion there.

I have a couple of questions about CEC

procedure. I'm not clear whether you welcome those questions at this time, or whether this is just for technical --

COMMISSIONER MOORE: No, I'm happy to.

MS. GROOT: Oh, thank you. All right, we are concerned about notification. Obviously there are some people here who didn't feel notified in time.

Whatever your procedure is, will you be making an effort when you come down to us, to let us all know about this?

COMMISSIONER MOORE: Well, as the probable Presiding Member of the Committee that will hear that, I'll tell you that it's my plan to come down and have several public informational hearings, as needed. And that we'll make it as widely publicized as we possibly can.

We intend to use the press, obviously. We intend to use groups such as yours to get the word out. So, the easiest way for us will be to use the good offices of our Public Adviser, and I entreat you to please use those. Make your mailing lists available to us. If you can give it to us in a binary format then we'll make sure that everyone who is on that gets notified every single

time we have a meeting, and what the topics are.

So, it makes it much easier for us to get the word out. And for us to make sure that the information that's being presented is fairly available to everyone.

So that's our intention; that has been our intention in this case. And, so, to the extent that it's missed I think it's been accidental. Certainly not intended. We want to get the widest net possible.

MS. GROOT: Thank you. And then Dave Nelson, he is also from the Alliance, and he apparently also has some questions. But I'd like to finish mine first.

Does the CEC -- I know your main job is siting of electrical plants -- does the CEC have anywhere in your mission statement something about protection of the environment, and concern for the environment?

And particularly I'm thinking of a location like here in Moss Landing where you're dealing with protected Elkhorn Slough and the Marine Sanctuary; and in Morro Bay you're dealing with a nationally protected estuary -- state protected estuary.

Is there anything, any concern on the part of the CEC for these very special sites?

COMMISSIONER MOORE: Absolutely. In our charter, in the Warren-Alquist Act, we're called upon to use the siting procedures that we have in order to take into account all the environmental effects that a proposed project would have on the environment.

And I should state, and stipulate right at the front end, no project is foregone to be approved in the end. It is foregone to be examined very closely, very capably. And that's the reason that we have experts such as the ones that we have and are privileged to have advising us. Because I'm certainly not a biologist, and I don't have that kind of information at my fingertips.

We have to call that in and take it into account in our decision. And then in the end, once it's all presented to us, our job is to take it away and render what's known as the Presiding Member's Proposed Decision. And that is literally either an approval with conditions attached to it, or a denial.

So, nothing is foregone in this. We do

have to take, and we will take the environmental effects into account.

MS. GROOT: Thank you.

MR. NELSON: My name is David Nelson, and I, too, am with the Coastal Alliance on Plant Expansion.

And I have a problem understanding mitigation and the way it's set up here. It's like you take one year study and then, you know, decide that it destroys "x" amount of acres of land.

Now, you're studying something that's been happening for 50 years. So, a lot of damage has already been done. So now we're going to start from day one here, and then say, well, we're entraining and entrapping so many creatures now, so it's worth this much.

My question is with the tools that are out there in the 21st century we could read this harbor very succinctly and know exactly what is going on here for the last 50 years, or 60 years even, so that you could see what the place was like before the power plant was here.

Now, we're dealing with the same thing where I live. So, I've been fortunate to talk to

people that have done this in other places. And they're able to take core samples from all, the whole region and tell you people exactly what's missing in this ecosystem.

Now, to me, if I was charging somebody for using this water, which I might add, adds a huge efficiency boost to their energy production which stifles other energy production, because they can do it cheaper, but they're using public cold water basically.

So when you come to mitigation I really believe that you should take into consideration the 30 percent efficiency that the cold water gives this power plant, which if they make a million dollars a day, is $300,000 a day, and base your mitigation on that estimate, as opposed to just say, well, these are worth this much.

It seems to me that, you know, these core samples, why aren't they used? I mean it's a tool that's in your venue to say, gee, Duke, why don't you do this. I mean it's a few hundred thousand dollars at the most to do this. Then you have a real roadmap of what is happening here to use to say, well, gee, this is what's going to happen in the next 50 years.

And it just seems so logical. And I don't understand why it's not being used.

DR. RAIMONDI: I'll respond at least in part to this. The first thing is just to clear up what might be a misunderstanding.

The goal of this research that we've conducted was not to look at degradation of the wetland, itself, the physical structure, the geological structure. In part, because we didn't think there had been any, but mostly because the effects that we were examining, entrainment in particular, is the removal of larvae through the operation of the plant.

Now, I think one of the reasons that there's a misunderstanding is because the mitigation package might cause there to be -- if it's accepted, might cause there to be the restoration of acreage within the wetland that would increase the productivity of the wetland as a whole. And in that way allow there to be the compensation for the production of larvae that have been lost to the system.

It's a simple thing, really, mathematically. If the idea is that you lose 10 percent of the larvae through the operations of

the plant, then by recreating 10 percent more wetland habitat, then you compensate for those lost larvae.

That's not to say that there have been any lost habitat, just the larvae have been lost from it. So that's the first bit of what I think might be a misunderstanding. Is we don't think that the plant has degraded the physical structure of the wetland.

Now, let's assume that it might have, through some other reasons, let's say because of the removal of the water. You change the hydrodynamics, and so in that sense that there might have been some degradation through the physical structure of the plant.

That's possible. We never examined it. It wasn't in our purview. Having said that, and having thought about the coring issue, because it's been brought up, maybe by you, and some other circumstances, two things we need to clarify:

That is that the esturine habitat is not like a very stable muddy bottom habitat where there's no erosion. There's chronic erosion in the esturine system, itself.

Every year when there's winter storms you release, you liberate lots of DDT from places where it's been stored up for years, through the erosional processes. Which is just an indication that these sediments are being exposed that have been buried for long periods of time.

Moreover, the hydrodynamics of the esturine system have been fundamentally changed through dredging and through the mouth-opening. And I think that it would be nearly impossible, if not impossible, to be able to categorically say that the operation of the plant has been linked in any way to the changes in the physical structure of Elkhorn Slough while there's been all these other things that have been occurring over the same amount of time.

As an example, the harbor mouth has been dredged, it's been opened. It's not sealed anymore like it was 50 years ago. There's been a change in the tidal prism through the restoration efforts. And so there's a lot of other complicating factors that would cause confounding of our ability to say with any sort of degree of conclusiveness that any changes that we saw, if there were available cores that hadn't been

fundamentally altered by erosion, were linked in a particular way to the operations of the plant.

So, that's our answer to that.

MR. FENTON: Good afternoon, everyone. My name is Larry Fenton. I'm the Reform Party candidate for Congress. I'd like to thank everyone for having this meeting. I think it's been conducted in a professional manner.

And from the discussion today I believe the most serious problem that I --

COMMISSIONER MOORE: Wait, wait, wait, do you have a question?

MR. FENTON: Yes, I do.

COMMISSIONER MOORE: Okay.

MR. FENTON: It concerns entrainment. And I was wondering if an idea of moving your intake valves, say, a mile offshore where you wouldn't have the larvae and the small creatures going into your cages, then being killed by the power plant, has it ever been discussed or contemplated?

DR. RAIMONDI: I'll comment on that because I've had experience with San Onofre and with Diablo.

At San Onofre Nuclear Power Plant the

intakes are located approximately a mile offshore. And if anything the problem is worse there.

So what you're going to be doing by moving the intake structure, or the intake pipe offshore rather than in the slough, is you're going to be changing the species composition of the entrained organisms. You're going to be getting lots of rock fish, as an example, versus gobies.

And I think that almost everyone is going to be more concerned with the loss of rock fish, at least from a public standpoint, than the loss of gobies.

And so you're going to go from a commercially important suite of species to one that's not -- that's not to say that gobies aren't ecologically important. We're not saying that at all.

We're not assessing value of any sort to any species. What we're saying is all you're going to do by moving the intake offshore is change the composition of species, and probably increase the total number of larvae that are entrained because you're going to be getting these more open coast species that are entrained.

DR. MAYER: I'd just add one more idea to the offshore intake. Like, as you suggested, at San Onofre the problem can't get worse. Whether things that happened, in our discussions this morning we talked about moving the traveling screens much closer to the bar rack, rather than at the end of this long tunnel, because fish get entrapped in this long tunnel and sometimes aren't able to get out.

The same thing would happen with an offshore intake, as does happen at San Onofre, where organisms, fish primarily, coming in way out in the middle of the ocean, have a very difficult time getting back from that onshore power plant where they're actually encountering the intake structure.

So you would increase definitely the chances for impingement rates to go up with an offshore intake, as well as Pete suggested, trading one species for another. And rock fish would certainly become more abundant in our entrainment which are probably more valuable to us than gobies, but I'm not taking sides on the goby/ rock fish, either.

LCDR FINN: My name is Michele Finn; I'm

with the Monterey Bay National Marine Sanctuary. And I have a technical question for Michael Thomas.

We are just kind of interested in maybe a brief description of why the state adopted the 20 degree delta T as a standard. Can you give me just kind of a brief description of that?

MR. THOMAS: I actually don't know why the 20 degrees was chosen, other than the industry at that time felt that that was the level that was needed to operate their power plants efficiently and make a profit, as was pointed out earlier.

And the staff, at that time, which was back in the early '70s, the staff and the State Water Resource Control Board in Sacramento felt that if the intakes were -- or the discharge outfall was located offshore that the 20 degree delta T would not present a significant biological impact.

But, you know, whether they actually did any studies on that, I can't say that they did. I'm not aware of any. I think it was opinions.

HEARING OFFICER FAY: Dr. Raimondi, any comments on that --

DR. RAIMONDI: No. I think that

Michael's right. I don't think -- I mean if you wanted to have zero impacts on the biology, you'd have zero delta T, there's no question about that.

You increase the temperature and you're going to have an impact on the ecology of the system. We all understand that.

And so what we were doing was operating under the assumption that the law is the law, and we're trying to mitigate beyond that point, beyond the 20 degrees.

LCDR FINN: I didn't want it justified, I just wanted to know why that standard was --

COMMISSIONER MOORE: Good question, so did I.

MR. THOMAS: There's also a 4 degree delta T limit in the thermal plant. And Duke has asked us several times why the 4 degrees. And the only reference that I could find in the state board literature was that that was the lowest delta T that was reasonably measured in the field at that time.

DR. MAYER: I agree with you, Michael, too, on the derivation of the temperatures, either the 20 degree or the 4 degree. And I don't know the history of how those numbers were selected,

except as it turned out I think they are protective.

When we later got some biological information or laboratory tests and otherwise, that they tend to be safe in terms of bracketing temperature tolerances for most organisms we find along the coast here. Below those temperatures.

HEARING OFFICER FAY: Yes.

MS. GAFFNEY: Good afternoon. Is this working?

COMMISSIONER MOORE: We can hear you.

MS. GAFFNEY: Okay. My name is Kaitilin Gaffney and I'm with the Center for Marine Conservation.

And my question goes to comments made by Mr. Thomas this morning. He stated that he believed that in several different respects the estimates provided in the stock report were essentially erred on the side of caution.

And I had a couple specific questions, and was hoping to get staff's input on them. One area regarding entrainment, there was discussion in the staff report that no studies or limited entrainment studies were done at night, although we could expect entrainment figures to be higher

at night, and therefore the numbers should be considered minimums.

There were also concerns raised about thermal -- staff, I think the phrasing was staff was concerned about limitations in the thermal studies, lack of modeling.

And so the question is could we have maybe a list of areas where the assessment of impacts does not err on the side of caution, but does the opposite, so we could sort of weigh those two and maybe an explanation for why in those circumstances we don't have better information.

MR. ANDERSON: The first -- that's kind of a long question so I might forget parts of it, but on the first part having to do with not the thermal but the entrainment.

There was very adequate nighttime entrainment samples taken. There weren't that many nighttime source water samples taken.

So what we do is we -- there were samples taken throughout the slough and harbor and offshore of the source water to get a feel for how many living things there were in say a cubic meter of that water.

So that when it -- and then there was a

comparison of the living things in a cubic meter that were being taken through the plant.

Those samples were taken day and night at the plant, but there was difficulty with safety and weather and other issues in getting a lot of nighttime samples at all the sample stations, and --

MS. GAFFNEY: I'm not sure how representative the nighttime samples are.

MR. ANDERSON: Right. There was increase in things entrained at night, living things entrained at night over daytime.

And, Dave, maybe you can say how you analyzed this, and whether or not nighttime entrainment values were incorporated in the average fish species.

DR. MAYER: The study that we did, we had three different ways of assessing entrainment. We took basically the same information and analyzed it in three different ways.

One of them was to take larvae, a number of larvae, and by knowing something about their life history and their population model, convert them to what would be theoretical adults. In other words, if they'd grown up what would they

be, how many would there be.

And we did that two different ways, with knowing how many eggs a female normally uses in reproduction; and second, knowing something about the mortality problem of a larvae to an adult.

The third method we used was the one that Dick was describing, so that what we're trying to do is get a sense of it's sort of a supply of larvae versus what was the power plant withdrawing. And make a proportion out of that in order to also look to see what, in terms of population effects, could the power plant have, knowing that we were withdrawing that same production from the population in the form of larvae.

And our studies on the larvae, in other words, being entrained, as Dick was describing, at the intake location could proceed 24 hours. In fact, they did, once a week and 24 hours.

And the problem we had in getting a source water samples in the Elkhorn Slough is navigating safely at night, and getting a boat up there, getting samples collected. And we actually had problems where we chose not to do that again, because it did become unsafe.

So, our nighttime estimates of what the source water larvae were suffered from our inability to collect in the upper part of the Elkhorn Slough.

But what in theory I'll tell you is that we do see, at the intake, and we also saw in the source water, an increase in the concentration of larvae from day to night. And this is not atypical of other locations where you are actually sampling larvae. They tend to appear more at night. We don't know if that's due to spawning activities, or the location of the larvae from day to night. They may go up and down the water column, become more susceptible at night to capture.

But the theory is that when it went up at the power plant intake, which is very hydraulically closely connected to the Elkhorn Slough, it was also going up at those locations, too.

And that's basically the rationale we used in working with the data we had in hand, knowing that at nighttime in the upper part of the Elkhorn Slough we didn't have representative samples. But if they went up at the power plant

our assumption was they would have gone up at the source water locations. And the proportion would have stayed the same, because the numerator and the denominator were going in parallel.

I have to tell you we were unable to prove that theory. So if you want to question that theory you're certainly able to do that.

We've done some checking on that, but what I've rationalized for discussions on this is I think more than anything else it had to do with tidal exchange. And it was coincidence, more than not, that our nighttime surveys coincided with particular tide conditions. But sample size, I couldn't demonstrate that.

MR. ANDERSON: The second question had to do with the extent of the thermal plume?

MS. GAFFNEY: Right, specifically the staff's identified limitations to the thermal studies in the original report. And I think actually those concerns remain in the errata version but the conclusion at the end reverses.

MR. ANDERSON: Well, I wouldn't say that. We never found a significant effect, never anticipated a significant effect, or I never did, from thermal effects.

In the water section there is a condition to characterize the thermal plume once operation starts, so that we truly understand what it will look like.

We thought that there may be better ways to characterize the thermal plume than were attempted with the existing power plants information.

So it's not in the biology section, it's in our water section.

MS. GAFFNEY: Right. And I guess my question was if there are better ways why didn't we pursue them, you know, up front.

MR. ANDERSON: This is what we are doing. We want to -- we were trying to characterize the actual plume, not try to model it from the existing plume.

We thought the modeling effort was lacking and difficult because of the characteristics of the close-in water and -- am I not answering what you're --

MS. GAFFNEY: Well, no, actually maybe I didn't phrase it very well. But I had a fairly specific question.

The language in the final staff

assessment, my reading of it was that staff's opinion was that it was fairly simple to do this modeling, and that the applicant's position was that it was not simple to do the modeling.

And so I'm wondering why we're not doing it. Has staff changed their opinion on that issue is my question.

MR. THOMAS: I'm not sure about the wording that's in the Energy Commission Staff report, but I know that both the Energy Commission and the Regional Board are requiring Duke Energy to do modeling of the actual plume to tell us what the actual dispersion is.

So that will be based on actual field sampling, and data and over-flights to show us what the actual distribution of the plume is. That is going to be done under actual operating conditions. They have to do that.

MS. GAFFNEY: I understand that.

MR. THOMAS: Oh.

DR. RAIMONDI: Let me comment on this. The reason for this, at least from the Regional Water Quality Board perspective is that we went into this feeling that there were ways to model the extent of the plume under projected operating

conditions into the future. That was a naive opinion, as it turned out.

When we actually went and talked to the people that we brought into the process, and people that we talked to about whether they'd be willing to come into the process if they were interested in it, to a person they said, it can't be done. And that what we can do is we can give our best guess estimate, but it's just that, you know, it's our best professional judgment.

And that what you would need to do if you want to properly characterize, to project the plume that will be occurring in the future, is to sample the plume that will be occurring in the future. And that's the position that we've adopted.

COMMISSIONER MOORE: Does that answer your question?

MS. GAFFNEY: Yes. Can I make one super brief comment? If we could put reasoning like that in the next version of the staff report, which I guess will be the preliminary decision, that would be incredibly helpful for the public. Making the reasoning transparent is critical.

Thank you.

COMMISSIONER MOORE: Good point.

HEARING OFFICER FAY: Question?

MR. LAURIE: My name is Tom Laurie. I live in Morro Bay.

My first question is, is the historical use of the PG&E plant, the amount of electricity generated, and the amount of water passed through the plant, available to the public?

MR. THOMAS: The historical amount of use, yes. In Duke Energy's thermal effects report that they submitted to us, which is this, which is available for public review at -- did you say you're from Morro Bay?

MR. LAURIE: Yes.

MR. THOMAS: Then you could review this at our office. On page 2 they have the historical and future use of water. The water volumes are here.

MR. LAURIE: Is it available like on a year-to-year basis from PG&E?

MR. THOMAS: Well, I think that what Duke did is they took the use over time and averaged it. They tell you what the design use is, which is maximum. And then what the average use is.

And I believe that's just over long operating periods when PG&E owned it. I don't think it's any, broken down into specific discrete time intervals, but it's over long operating periods of time.

MR. LAURIE: Could I ask that question of Mr. Seedall?

MR. SEEDALL: You go ahead, Dave.

DR. MAYER: That same table that Michael referred -- Mr. Thomas referred to is also in the 316-B report, which I believe is up on the internet.

Yes, it's an average in there. And I would suppose that -- the data was constructed by calculating from annual values. And what was placed in the report was an average over a period of time, generating period of time.

MR. LAURIE: Over the entire life of the plant?

DR. MAYER: No. Actually I think it was broken up into representative periods because there were periods when -- I'd have to look at the actual dates of the -- historical dates of the record, but it's in that report that --

MR. LAURIE: Is that something I could

look up?

DR. MAYER: Oh, yeah, it is documented and tell --

MR. LAURIE: That's --

DR. MAYER: -- you what periods of comparison --

MR. LAURIE: Thank you. The other question is what water volume is used in the iterations in the 316-B study of the empirical transport model?

MR. THOMAS: That's the volume from the new units.

DR. MAYER: Right.

(Parties speaking simultaneously.)

MR. LAURIE: Sorry.

MR. THOMAS: I was going to say, the new units that are going to come on line --

MR. LAURIE: Well, the water volume is a volume of the estuary. Is that something I can get someplace --

DR. MAYER: It's on page 6-3 --

MR. THOMAS: And 3-18 and -19, as well.

MR. LAURIE: Okay. And how long have units 1 through 5 been shut down?

MR. THOMAS: Approximately 1995, since

1995.

MR. LAURIE: Is there any chance that those units could simply be restarted without a modernization?

DR. MAYER: I don't know, I'm not the expert on that.

MR. SEEDALL: We certainly would have to do some work on those units to get them to operate.

MR. LAURIE: Is that a goal or --

MR. SEEDALL: Maintenance type work. It would take some time and energy and money to operate those units again. That's not our plan.

MR. LAURIE: But they could be put on line again?

MR. SEEDALL: Conceivably. That's certainly not our plan. They're old, they've been shut down.

MR. LAURIE: They're obsolete?

MR. SEEDALL: They're old. They -- obsolete, in the sense -- no, I don't agree that they're obsolete, in the sense that California has a peaking need, and those units have heat rates that would be efficient for a peaking type of market.

MR. LAURIE: Peaking only?

MR. SEEDALL: Well, depending on the demands, maybe it's more than peaking, and the needs.

MR. THOMAS: I think if they were efficient systems and would generate a profit I think they'd be running them now. They're not, so it's pretty indicative.

MR. CAILLIET: Can I make just one quick comment from the ecological perspective?

If you restarted those five units their outfall is right in the main channel of Elkhorn Slough, which passed the previous regulations, but I would be personally against doing that.

I know for a fact that when that happened there were warm water species that did become more abundant off that outfall, and that would be a fairly major disruption back to that situation where you're putting heated effluent into the Elkhorn Slough.

And I would bet that the Marine Sanctuary would probably have problems with that, too, since that water is under their jurisdiction.

MR. LAURIE: Would the applicant have to go through a permit process to restart these

plants?

MR. SEEDALL: I believe we would. I mean, we have an existing permit to go into Elkhorn Slough for a period of time, but there would have to be a review of that, I believe, anyway.

The Water Board's here. And clearly that wasn't our preference in the context of reviewing the overall site and seeing how to best modernize it.

MR. THOMAS: Yes, they do have an existing permit that allows them to operate those units. But, if they were to start those up again I'm sure there would be a review process. Because I don't think today we would be as lenient as we were in the past in allowing a discharge to the Elkhorn Slough.

MR. LAURIE: What is the expiration date of their discharge permit for the 1 through 5?

MR. THOMAS: That, I believe, expired earlier this year, and it's on administrative extension right now, which is a permit for the whole facility, and 1 through 5 is included, as well as 6 and 7.

MR. LAURIE: There's not a separate

permit --

MR. THOMAS: No.

MR. LAURIE: -- to discharge into the Elkhorn Slough?

MR. THOMAS: No. It's all in one.

COMMISSIONER MOORE: Could we just have one more question and then --

MR: LAURIE: I have one more question.

COMMISSIONER MOORE: -- we'll come back to you if you still have some more --

MR. LAURIE: Right. This is kind of a zen question and it puts this stuff together.

SPEAKER: That's taken care of in Santa Cruz.

(Laughter.)

MR. LAURIE: Mr. Anderson's comment about CEQA confuses me, because CEQA specifies that you can look at a specific project, but you don't have to look at an overall project.

Now, yet we speak of units 1 through 5 as being operational when we're talking about improving the environment around here. Well, units 1 through 5 are shut down, they're not operating.

The water quality in the Elkhorn Slough

has benefitted tremendously from the fact that they are shut down.

So when you say that -- I don't know how to go on with this, but when you're discussing this modernization you're discussing the improvement to the water quality. Well, you're not going to improve the water quality beyond what it already is now by starting up a new plant.

MR. ANDERSON: I'll comment on that. My analysis considers units 1 through 5 not operating, and the new units 1 through 2 in effect.

So I'm only looking at existing units 6 and 7. And then I'm building my effect on the new units 1 and 2. I'm not -- I consider 1 and 5 shut down, and have been for five years. So, --

MR. LAURIE: But you don't consider them shut down forever, because if they weren't there --

HEARING OFFICER FAY: You've lost the mike, we can't pick up your comment.

MR. LAURIE: You don't consider them shut down forever, because if they weren't there, then this permit process would be considering a power plant expansion on this site. And that's

not the way you're looking at it.

MR. ANDERSON: That's the way I'm looking at it. I wasn't aware 1 through 5 had the ability to restart.

DR. RAIMONDI: And just a comment again to reinforce Greg's comment. If 1 through 5 were operating and Duke came forward with a proposal to replace 1 through 5 with the new set of units that they're going to put in, for the most part everyone would view that as a plus.

Because in theory a lot of the damage would be at least the same or perhaps even less than it would have been under the old operating plant. Certainly it would be less given that the discharge goes straight into Elkhorn Slough rather than offshore.

And so I think both the Energy Commission and the Regional Water Quality Board are, in fact, considering it to be a new standard because of the level of mitigation that they're requiring for it. The mitigation is commensurate with the additional impact to the system through the operation of the new plant.

MR. MAYER: And to echo your thoughts, Pete, but I'd also point out that not only the

discharge be moved from Elkhorn Slough sanctuary to the out off the beach there, but it also, the new design represents a 34 percent reduction in the amount of cooling water required to those replacement units.

So that would, in that sense, be an improvement in water quality by that amount of water that wouldn't be circulated through the power plant.

HEARING OFFICER FAY: I just wanted to briefly comment --

COMMISSIONER MOORE: Excuse me, sir, could you hold up, please.

Does anybody else have a question? People who haven't asked yet? Yeah, go ahead.

MR. SHIMEK: Hi, my name is Steve Shimek, and I'm with The Otter Project, which is a local nonprofit here. We have about 1000 members nationwide.

I've got two questions and I'll take them one at a time, I guess.

First of all, and I want to say, Greg, Peter and Mark, I kind of feel apologetic a little bit because I mean these people are my friends and kind of acquaintances, and I have to put people on

the spot a little bit, but I guess it's my job right now.

Were the secondary impacts of taking this planktonic life looked at? What I mean by that is first of all I'm looking at the total impact. In other words, you know, what it says in the reports is just units 1 and 2 is a 13 percent increase or take.

But it also says in the report that if you take the project as a whole you're looking at several times that. And there's no number put there. It just says 13 percent, and the project, as a whole, the Moss Landing as a whole, would be several times that.

So we know what the impacts will be on some of these fish. These fish and these larvae feed things. And those things are eaten by other things.

Did anyone look at the secondary impacts and is that considered significant?

DR. RAIMONDI: Could I ask for -- do you mean secondary impact as impact as the result of both of the projects combined? Or do you mean those impacts resulting from the loss of the species?

MR. SHIMEK: Yes.

DR. RAIMONDI: No.

MR. SHIMEK: I mean, --

DR. RAIMONDI: We did not look at secondary impacts.

MR. SHIMEK: Why not?

DR. RAIMONDI: I'll answer it in two ways. The first is that we weren't charged to look at secondary impacts, and so that's sort of a cop-out answer, I agree. You know, since we weren't charged to look at it, we didn't look at it.

The more complicated answer is that secondary impacts would be very difficult to look at, at that level of loss. You know, we're operating in a system where, as you acknowledge, and we acknowledge, in fact, there is already massive take from the system.

So you can scale up, if you wanted to, we estimated about 13 percent. That's based upon an intake rate of 250,000 gallons/minute. The current intake is about 600,000 gallons/minute. That's right, isn't it, Dave, about 600,000?

DR. MAYER: Yes.

DR. RAIMONDI: So that's about a 2.5,

2.25 times, you could scale up by two and a half times. So you might go 40 percent, something like that, if you were going to scale up.

So there's already a level of take in the system, itself. And to actually be able to translate the additional -- remember, we're working on the additional impact, that's the charge, that's the law, what additional impact there will be from the new operations -- to try and detect or to project what additional impact there would be on the secondary consumers, given that we've got species in there that have long-life histories. It would be just to difficult to actually scientifically study.

That's not to say you couldn't project them by swagging it. But, we weren't in the business of swagging it. And so we didn't do that. Which means, swagging just means scientific wild ass guess, which is basically what we would have been doing by making those --

(Laughter.)

DR. RAIMONDI: -- those sorts of estimates.

MR. SHIMEK: I'm not onto my second question yet, but do you think that this plant, I

mean, will impact the birds and the marine mammals in the slough?

MR. CAILLIET: I actually haven't done any studies on feeding habits of birds and mammals, but I've been on committees of masters students and PhD students who have done those.

And I have published papers on feeding habits of the fish assemblage entirely in Elkhorn Slough.

And you're talking 80, 85 percent of these larvae that are taken are gobies. And gobies are one of the things we have the most difficulty sampling as adults, because they're two inches up to about five, six inches. They live in burrows, live on the mud flats, they live in the salicornia marsh.

They're undoubtedly important to the birds, like wading birds, that feed on them. But there is absolutely no way of figuring out the quantity of those that are being taken, even from the existing body of literature.

Mark, you may have more information than I do, but it would be difficult enough with the fishes, and it turns out most of the fishes don't eat gobies.

So they're kind of a missing link. The only reason we know they're really abundant in the slough is because 88 percent of the larvae we catch in the slough is gobies. That means there's a bunch of them there producing, reproducing, but we don't have any way of sampling their habitat.

So I think it would be extremely difficult to do that, except arm waving, like Pete's saying. And we actually have had a couple discussions about it, and came to the conclusion that it would be virtually impossible to quantify.

Now, let me add one other comment. If we had seen larvae of different species being taken that we knew for sure were really important to feeding habits of terns, like anchovies, if they were really abundant, if there was a lot of them killed.

Something like that I think we'd have probably done a little more arm waving about it. But honestly, the species composition, the eight species that were 95 percent of the larvae taken, both in the survey and in the entrainment, didn't scare us as much, because we really don't know how important those fish are. And they may well be; we just don't know.

DR. RAIMONDI: I'd like to make one more comment. And that is you asked us about whether we had considered it formally. We didn't.

But you have to remember what the mitigation package would do. We attempted and fought long and hard to make sure that there was a nexus between the amount of money that was going to be contributed by Duke, and the production that was lost.

Now, let's assume that we actually get this mitigation package through the public and everyone agrees that it's an okay thing to do.

Then, in theory, one of the ways that the money could be spent would be to produce "x" number of acres that would, by math, at least, contribute to the productivity that had been lost.

Having said that, if it contributes, if we lose 10 percent of the production or 13 percent of the production due to the operations of the plant, and we kick it right back into the system due to the restoration or to the erosion control or through whatever mechanism the Elkhorn Slough Foundation deems appropriate to maintain or to enhance the productivity in the slough, then going along with that will be the feeding by the birds,

will be the feeding by the otters.

And so the productivity will return to the system through the primary losses and through the secondary consumers.

And so I think in that way the mitigation package, even though we didn't study the effect on the secondary consumers, will compensate for whatever losses there may have been and that were left unstudied.

DR. MAYER: I just wanted to add one more thing to that. Is that when we speak of 13 percent loss, we're speaking of 13 percent of the larvae entrained by the power plant. In other words, the fish species that made those larvae.

And so if you look at the list of fish that are in the Elkhorn Slough, that's only about one-third of the total number of species that we find in the Elkhorn Slough.

So the other two-thirds of fish, I'm speaking about fish species, aren't even exposed to entrainment of the power plant; yet, they would benefit, using the same rationale as Pete, from the creation of some equivalent new marsh habitat or production.

So, there's a very large, built-in

factor there for safety, if you will, or conservatism.

MR. THOMAS: I'd like to add to that, I think that earlier when we were saying that we didn't take that into account, I was thinking to myself, wait a minute, we did take it into account in our mitigation approach.

As long as we take a habitat approach towards mitigation where we are preserving habitat, acquiring habitat, preserving it and restoring it, we're certainly taking into account these issues that we can't quantify.

And that was our intention.

HEARING OFFICER FAY: And your second question?

MR. SHIMEK: The second question is in the original biological report it says that impingement -- it says the thermal discharge, impingement, and -- because there's so many strikeouts it's frankly hard to read what the original said -- but it basically says that thermal discharge impingement and entrainment have significant impacts.

Then, with no new data, in the errata it strikes out two of those things, and it says only

one has. So there's been no new data presented, but you went from three things having an impact to one thing having an impact.

Could you explain that when there's been no new data presented?

MR. ANDERSON: Absolutely. Threw it together quickly and I didn't mean it.

(Laughter.)

MR. ANDERSON: I meant that entrainment causes significant effect, but I lumped them all together, figuring that if one does, then all three of them together does, also.

But later went back and separated them out and dealt with them separately to make it clearer.

And so there's nothing funny going on, it was simply a matter of me lumping three things together that I explained independently, two of them not being considered significant, but one being considered significant. So I made it match with the rest of the testimony. And it's how I feel about the project.

HEARING OFFICER FAY: Okay, other questions?

MR. THOMAS: Can I respond to that, as

well?

HEARING OFFICER FAY: Oh, sure.

MR. THOMAS: Also, that was a draft, I believe. And we reviewed it, I reviewed it, and the technical work group reviewed it. And we didn't agree. And we discussed that in the technical work group. And we, you know, made it clear that we thought that the impact was on entrainment and not on the other two. So, that was part of our overall process.

HEARING OFFICER FAY: Okay. Any other questions? And, obviously we can't begin the comments until we finish the questions, so try to keep it brief.

DR. SMESTAD: Hi, I'm Greg Smestad. I'm from the Monterey Institute of International Studies. I'll get you the spelling of my name, it's difficult.

My first question is in regards to the basic assumption here, in terms of alternatives. Is entrainment a necessity?

Now, I'm a scientist by training, also a physicist, but not an expert in hydrodynamics, but I've seen enough diagrams that would hint to the idea that there could be a way to allow the water

to flow so that certain sized species could be shot out while the water is still, the main part of the water is still taken into the plant.

Was that considered is the first question that I have.

MR. ANDERSON: I think you're talking about impingement problems, and --

DR. SMESTAD: Also entrainment -- the flow part of the -- the species represents a mass, a volume, and that these species could actually be, through hydrodynamics, shot out, at least some of them, through a pipe before the main part of the water would go into the plant.

MR. ANDERSON: I don't think you're correct. I think that's true with larger things that could be impinged, but the things that are entrained are small and they're pelagic, they're really not -- they may be capable of movement, but not strong movement.

And so they're carried with the water. And if you flush some aside, I think you just bring others in.

DR. SMESTAD: I think my question was really before they reached the screen, divert those species --

DR. RAIMONDI: I'll address that. There's two separate issues. One's on impingement, which is of larger individuals. The second is on entrainment.

Let's talk about impingement first, which is of larger individuals. There are lots of techniques available for diverting larger individuals away from the screens.

The San Onofre Nuclear Generating Station has one in place right now that's called a fish return system that diverts fish through a behavioral type of device, that causes them to be diverted through behavioral mechanisms. Basically they swim to an escape route.

That's a really effective way. They return about 90 percent of the fish that get into the system through these behavioral return systems.

They've got about 99 percent more fish that enter the system at Songs than there are at Moss Landing. And the reason that there's such a huge number of fish that enters the system at Songs versus Moss Landing is because there's a real long tunnel. About over a mile tunnel.

It's offshore intake and a lot of fish

come in there. And the main point of this is that once they're in there, they're a mile in or a mile and a half in, they don't -- you know, they can't swim back.

Now what Moss is doing to reduce the impingement rate is to move the screens to about ten feet from the intake. That should allow the velocity that's coming in there, which is less than a foot per second, all the fish to be able to swim back and return.

So, in effect, the new design will allow the larger fish to actually return to the system without much impingement.

With respect to entrainment, you're right. If these things had a mass that was different from neutral in the water column there would be ways of diverting these things through some sort of physical mechanism. They do not. They're basically passive particles.

And so then you're again left with the approach of trying to induce behavior in them to get the fish to, themselves, move toward or away from a particular type of device, so that you can divert them.

The problem with it is that even at that

slow rate of intake that these guys basically are acting as passive, non-swimming particles. And so there's been no technology that's been shown to be effective to reduce entrainment through behavior diversion.

DR. SMESTAD: Thank you, you've answered my first question, thank you very much.

My second is, in order for me to clarify exactly what this proposal is all about, let's say we're in scenario, it's 20, 30 years from now, and all the units are operating close to capacity. And it's found through some other study that there is a greater impact than is understood right now.

My question, to try to clarify what this proposal is all about, is what happens then?

MR. ANDERSON: I don't know. I mean we're not set up to deal with that. I think something would have to be important enough to be raised in some process.

And, Gary, maybe you can mention -- you can answer this.

HEARING OFFICER FAY: First of all, under CEQA it's a snapshot evaluation of a project in time. And the mitigation is determined, if it's adequate to reduce the impacts. And that's

locked into the conditions.

And there's no provision to revisit this, you know, with a new evaluation.

However, the life of the project is probably 30 to 50 years. If late in the life of the project something truly significant was found to be a problem -- keep in mind that the Energy Commission maintains jurisdiction over this -- so you, as an individual, in 50 years, could choose to petition the Commission to revisit this.

I mean, it's not an easy thing to do. But the jurisdiction remains. It's not like the power plant is not being watched.

All the mitigation measures and all the conditions of certification are monitored. And those that continue, they mainly have to do with the operation of the plant, not the construction of the plant, but those that continue to affect the operation of the plant are monitored for the life of the plant by the Energy Commission Compliance Unit. That's the closest answer I can give.

MR. THOMAS: I can answer that, too, as well. From the Regional Board's perspective we issue a permit every five years, or renew the

permit every five years.

And it's our job to review the environmental impacts and to see if there's anything occurring that we did not anticipate.

So there is that five-year --

DR. SMESTAD: So if another species was identified that wasn't deemed important now, in five, ten years down the line turns out to be a cornerstone species, then at that point that could be looked at again?

DR. MAYER: Yes. If that is the case. And the other thing, it's not only what might happen differently, in a negative way, but if over those intervening five years a new technology, intake technology was developed, then the Regional Board would also, through that permit renewal process, look at is that something if we'd known about then we would have considered.

So, it accounts for change in technology and change in biology.

DR. SMESTAD: Thank you very much.

HEARING OFFICER FAY: Okay, any other questions? Yes, sir.

MR. JENNER: Bob Jenner, and I don't represent anybody.

First question, the flow through the intakes, how does that compare to the total tidal flow in the slough? I mean are we talking about 1 percent, 10 percent, 60 percent?

DR. MAYER: The mass of the flow or the speed of the water?

MR. JENNER: Mass of the flow.

DR. MAYER: It's roughly 10 percent.

DR. RAIMONDI: Dave, let me interject here. Do you mean of all the projection for the new system, or the whole thing?

MR. JENNER: The whole enchilada.

DR. RAIMONDI: It's more than that, Dave.

DR. MAYER: I don't have that -- just talking about the new units it's a little less than a tenth.

MR. JENNER: So, it's probably about 30 or --

DR. MAYER: I think it's about 50 percent.

DR. SMESTAD: -- 50 -- so 50 percent of the water in the slough gets passed through these intakes?

DR. RAIMONDI: By volume. But that

doesn't mean that 50 percent of the water in the slough actually passes through, because a lot of the water it looks like hydrodynamically comes from the bay. You know, the intakes are very close in the harbor to the bay water.

DR. SMESTAD: And so a third roughly?

DR. RAIMONDI: We don't know.

DR. SMESTAD: You don't know. The second is what is the level of confidence that these mitigation measures will indeed replace the loss? I mean are you highly confident, or somewhat confident, or --

MR. CAILLIET: I don't know if I should even answer this, but like I tried to say a few minutes ago in response to Steve's question about the gobies and what kind of habitat they live in, and whether or not the birds that feed in those habitats would have more food or less food because of the entrainment, I'm pretty confident that if you reasonably produce good mud flat salicornia marsh habitat that has regular tidal flux, that with the number of larvae that are out there in that system that you would get recolonization within years, a few years probably.

And I would bet that if that habitat had

the right silt sorting coefficient and tidal flux to bring food in and out, and reasonable productivity that the main larvae that are being killed by the plant, the gobies, there's three species we identify, four species we identify in the other group, that that would indeed produce habitat that would enhance the populations just by sheer habitat availability of those species.

I don't think it would do much for some of the other species, the larvae. But they're not by anywhere as close as the 88 percent of the larvae that we took that were in the goby family.

DR. SMESTAD: Okay, thank you. Final question. Instead of a periodic pay -- or a lump sum payment, was any consideration given to supplementing that with a periodic payment, such as like, for example, through a power surcharge?

MR. THOMAS: No, we didn't consider that.

HEARING OFFICER FAY: Okay, any questions from people who have not asked questions yet? I see some return questioners. All right. Sir, did you have --

MR. FENTON: Yes, I had a comment. I could put it in the form of a question, I guess.

My name is Larry Fenton. I'm a local resident here, as you can tell by my blue jacket. I've also been a volunteer with the Center for Marine Conservation.

And so I'm very concerned about the effects to the wildlife. And this gentleman had a zen question over here, and I wanted to sort of answer it from my perspective, and it was by their increased technology they're able to reduce the amount of damage that they do to the environment, from what I understand.

But there is an overall problem across the United States concerning light pollution. We're using too much electricity, and I believe that the state should do more to help consumers reduce their use of electricity. And also allow astronomers to view the space we have.

Thank you.

HEARING OFFICER FAY: Some people would say the state has done too much to discourage the use of electricity lately, since the prices are going up quite rapidly.

Yes, sir, you have not asked a question yet, I believe.

MR. MAGINNIS: I'm Bob Maginnis, and

I've been waiting all day to make a comment. But a question first.

Mr. -- the Supervisor that gave a comment. He said he didn't want any saltwater wetlands because it was going to cause saltwater intrusion. Does anybody want to comment on that?

MR. CAILLIET: Bob, I had the same question. And I think when I listened to Louie speak, I think what he was talking about was taking existing agricultural land and converting it back to what might have been at one time saltmarsh or saltwater-induced areas.

I don't think he's referring to some of the areas that Mark and his management plan have identified for restoration closer to the edge of the slough.

Mark, you might know more than I do about that, but that was my interpretation after I listened to him say it a couple times. That's where he was headed, you know, large agricultural land being restored to marsh, which would, he thinks, increase saltwater intrusion. That's just my gut feeling of what I heard.

HEARING OFFICER FAY: At this point I'd like to ask if anybody has such an urgent need to

ask an additional question that they want to hold everybody here before they can start making their comments? I don't mean that as intimidation too much, but a little bit.

(Laughter.)

HEARING OFFICER FAY: So, with that caveat, keeping in mind that you'll be holding up your neighbors, those who want to make comments, are there any more questions?

All right, this gentleman is --

MR. LAURIE: Tom Laurie from Morro Bay. And I have a quick question. The mitigation package does not include reducing the percentage of proportional entrainment. Won't enhancing the Elkhorn Slough's productivity simply entrain more organisms?

DR. RAIMONDI: The short answer is no. The reason is is that we calculated this entrainment on a per-volume basis, right. And so the only way to increase, if our projections are correct is the caveat, the only way to increase the entrainment would be to increase the volume of fluid passing through the plant.

By increasing the amount of wetland what we're doing essentially is increasing the volume

of water in the tidal prism or in the wetland, itself.

And so the concentration should not increase of larvae. And without the concentrations increasing, the only way to increase the entrainment would be to increase the volume of water passing through the plant.

DR. MAYER: You could theoretically increase by the increased productivity of the wetland, the concentration of larvae in the water. But then it would be still the same equivalency. There's more out in the supply as there were being taken in the power plant, so the proportion would stay the same.

HEARING OFFICER FAY: Okay, before we begin accepting comments now, and that's what I'd like to do at this time, I just want to remind everybody that this case, the docket number is 99-AFC-4. And if you, for some reason, have to leave before you're able to make your comment you can write a letter to the Chairman of the Energy Commission, re: Moss Landing Power Plant Project, 99-AFC-4, and it will get into the correct docket file. That's our administrative file. And it will be part of the administrative record and your

comment will be considered.

That's really the normal way this is often done, but we wanted to give this additional opportunity today so that people didn't even have to bother to sit down and write a letter. They can just make their comments. So it was a convenience for the community that we did it this way.

So, at this time I'd like to move to comments then. Yes, sir.

MR. CURLAND: Well, I had two questions but I'll restructure them as comments.

(Laughter.)

HEARING OFFICER FAY: Don't expect an answer.

MR. CURLAND: The first comment is that at the last -- oh, Jim Curland, Friends of the Sea Otter.

The last time I made a comment about a section 7 consultation requirement under the ESA for the sea otters, and Wayne Hoffman provided me with a letter that Fish and Wildlife Service had submitted.

And I'm a bit concerned that the letter was dated February 1st, well before any documents.

So wouldn't it be -- I guess this is a question, but it seems like it would be necessary to resubmit or reconvene a section 7 consultation following the receiving all the various reports, biological reports and changes.

COMMISSIONER MOORE: I think those are in the file. So I would say it's likely to be there, but if you want to make sure that we see it, just re-send it again.

MR. CURLAND: No, no, that's not the question.

HEARING OFFICER FAY: I think the answer to your question may be that that was a draft of the consultation. And --

MR. ANDERSON: There was no consultation because there was no concern by the U.S. Fish and Wildlife Service that a federally listed species would be lost to the project.

MR. CURLAND: But wouldn't --

MR. ANDERSON: So, if there's not a concern for that there's no section 7 or 10 consultation. Whether that's with the National Marine Fisheries Service or with the U.S. Fish and Wildlife Service.

So, on projects when that's not a

concern, our projects work in concert with that process, so we don't certify the project until we get a biological opinion, or a take permit, so often called.

And so early on in the project we coordinate with many agencies to determine if they think there's going to be a federally or a state listed species taken, and it's the same thing with Fish and Game in this process. We're not doing a biological consultation under the Endangered Species Act. But they're involved in terms of effects, overall effects under CEQA.

But there's no evidence that we're going to directly lose listed species at the federal or the state level. And that's why U.S. Fish and Wildlife Service didn't get involved with the project.

MR. CURLAND: Well, wouldn't they have to make that determination once they had the best evidence, which would mean all the reports and the information?

MR. ANDERSON: Well, I don't know, they make their own decisions, but they were faced with existing information and knowledge of the area, and probably databases and other information,

whatever they used to make their decisions on this.

HEARING OFFICER FAY: Okay, other comments? Yes, ma'am. Please, everybody, identify yourself before you start speaking.

MS. GROOT: My name is Henrietta Groot, again.

From reading the staff errata I concluded that there is no requirement for continuing monitoring of the entrainment after the project has been approved.

So, you would have no way of telling whether that 13 percent stays at 13 percent. I would urge you to change that. It would be very interesting, and important for you to know if that became 20 percent. And in that case I would say the mitigation should be greater.

And with all this discussion this morning about the $7 million, I think you were talking about you were concerned about the wrong figure. The 13 percent figure is the one you should be concerned about.

If you do better than 13 percent, in other words if you entrain lower figures, then you're doing great. And less mitigation will be

needed.

So I would urge you to continue monitoring that information and making your plans in accordance.

MR. HENNESSY: Hello, my name is Scott Hennessy. I've considered the mitigation program from the perspective of a person with degrees in environmental biology and marine science.

And as the Director of the Watershed Institute at CSU Monterey Bay, also as the Chair of the Planning Commission, and as a member of the team that helped develop the Elkhorn Slough watershed plan, and for the benefit of the whole Elkhorn Slough and Morro Coho Slough ecosystems, I support a mitigation plan based on a watershed scale.

And that the plan be adequately funded; and be implemented on the most local level possible. In other words, having the money come to the ground as closely as possible.

And as Dick has mentioned, we need to make certain that the mitigation plan works. And the formation of an advisory, technical advisory committee made up of professional panel capable of problem solving will insure implementation and

monitoring of the mitigation plan.

And I think the real important issues are making certain that the mitigation plan is working. And there will be a letter coming from Monterey County from the Board of Supervisors shortly, which details some additional mitigation monitoring. And I think that's real important that it be a dynamic process, and not one that's set today and not have the ability to be flexible and incorporate best technologies.

And make certain that the mitigation and the actual restoration projects are producing some results so we have some basis, you know, since there were so many questions thrown up today, and everyone's acknowledged that we don't really have all the information we need.

I think it's really valid comment from the public that this be a dynamic system and that we can adjust and tailor the mitigation so that we're successful. And that's what we want to be.

COMMISSIONER MOORE: Commissioner, let me ask you a question. Does that letter already exist? Has it already gone through the Planning Commission and on to the Board?

MR. HENNESSY: Yes, it's gone to the

Board. It's in draft form at the Board now.

COMMISSIONER MOORE: So, in essence, they have language that's almost perfected, they simply haven't acted on it yet?

MR. HENNESSY: Yes.

COMMISSIONER MOORE: And when would you expect that we would get that letter?

MR. HENNESSY: The 25th.

COMMISSIONER MOORE: 2-5 this month?

MR. HENNESSY: Yes. Is that early enough? Is that going to --

COMMISSIONER MOORE: Well, yes. I'd just say it's going to come out to the edge, but good enough is good enough. Yes.

MR. HENNESSY: Thank you.

COMMISSIONER MOORE: Thank you.

MR. MAGINNIS: My name is Bob Maginnis. I live just across the harbor here, and I've been working on my sailboat now for six years.

(Laughter.)

MR. MAGINNIS: I was going to leave in six months, but you know how that goes. So, I've been watching M.V. Ricketts go back and forth, even at night and stuff, with their nets and catching various larvae and stuff.

And I've also been observing the outfall of the units 6 and 7, and the ferocious bird activity that's happening out there. And it's pretty obvious to me that there's a lot of stuff, a lot of critters getting cooked, or at least warmed up a little bit.

And also I want to say that I'm very much in favor of this project because it will be 55 percent efficient, compared to something about 40 percent efficient of a typical thermal plant.

We've got issues about carbon dioxide, global warming. And we also -- the natural gas supply is going to get tight here in another decade.

So, I'm in favor of the project. But the issue of mitigation, my first thought was that rather than solve the problems caused by bad farming in the slough, that whatever mitigation should first be spent reducing the amount of larvae or little fishies, or whatever, that get sucked into the -- through the screens.

And these screens, I'm actually confused right now, whether they're 5/16ths opening or 3/8-inch opening, but -- of the new plant -- but my proposal, and I actually -- that is I just thought

something up, and it turned out that there's a word for it. It's called a gunderboom. And it's actually in the -- there's a brief mention of it in the book.

And essentially the longer your screen, the greater area of your screen, the smaller opening you can have, the lower velocities you will have across that screen. And in the case of this power plant, the proposed power plant, it just happens to be convenient that they haven't already built water intake structure.

And I would like them to explore instead of spending $7 million bucks for the Elkhorn Slough, maybe they spend $5 million bucks up there, but spend a couple of million bucks making the existing water intake maybe twice as wide with half the velocity.

In other words, instead of having half a foot per second, -- excuse me, that was right, wasn't it -- half a foot per second, you could have something with twice as wide intake, you could have it a quarter foot per second, meaning that certain small creatures would be able to escape the current.

So, anyhow, I would appreciate, rather

than just using this existing structure, that you consider various alternatives of size of mesh and square footage.

And another thing, in today's Herald there was an article, and I can only paraphrase it. It was something like, Duke said, well, okay, but we really don't think we should have to, or something like that.

And, whether the $7 million was too much, I can't -- you'll have to read it, yourself. But I did a little calculation and what'd I come up here with -- if it's a quarter million gallons per minute, that's .767 acrefeet per minute. That's 46 acrefeet per hour. That's 1104 acrefeet per day.

If we run this thing for 30 years that would be 10,950 days; that would be 12,094,0056 acrefeet. If the mitigation was $7 million, that would be 58 cents per acrefoot.

And then some other figures I did here. It would cost, if you used 1104 acrefeet per day, it would be $638 -- so $639 per day. And on a day, they'd have 3.5 cents wholesale price of electricity, that'd be $840,000 per day. So we're talking about something really small in terms of

the cost.

In fact, I think, if I may have this right here, if it was a million kilowatts -- per million kilowatt hours per hour, 24 million kilowatt hours per day, it would be something like .0026 cents per kilowatt hour, the cost of the mitigation.

So, if there's any issue about whether the $7 million bucks is enough, or I mean it is too much, I think that it's a pretty good deal.

But again, my primary point really is that I would like to see them have a larger set of screens with lower velocity that would suck up less critters.

Thank you.

HEARING OFFICER FAY: Thank you. Other comments?

MR. NELSON: Yeah, my name's David Nelson. In line with this, I understand Duke's permit is on administrative extension now, so now is really the time to look at exactly what this water is.

I'm a California resident. I pay my taxes here. This is my water they're taking. I don't want you guys to give it away.

And what these numbers show, that you're virtually giving this away. Now, Duke has said that this water is worth 30 percent efficiency to them. So $7 million broken down is really nothing. I mean you really should look at this.

We're talking, I just saw a thing yesterday about Bureau of Land Management giving away property to private developers, you know. They give it to them one day for 700,000. They sell it the next day for 4.5 million. That's giving away our resources.

Now, this is a resource. Okay, Duke, build your power plant here, but the State of California should benefit, not only from mitigation that they're going to destroy the environment to the tune of $7 million, but we should benefit from the water, the resource, that cold water making this the most efficient power plant in California because of that 30 percent in cold water.

So I really don't know who to see, I don't know which agency's responsible. If it's the Water Board, or who it is. But I really -- they've had 50 years free ride of this water, making nothing but profit off of this.

And mitigations aside, this is a major resource. If it was a forest and you gave it to a lumber company, people would be at your door yelling at you.

So, I'm at your door yelling at you now, don't give away our water for free. I mean put a surcharge on the electricity that they make that will directly proportion it to the water they take. And that will take care of all the mitigation. And you won't have to just spend this money right there. You could take the money and put it into schools or whatever else we need.

This is profit we're talking about. This isn't a public utility any longer. These people are making widgets in their factory. Now you're giving them my water to make their widgets better.

I'm saying, you know, think about this and levy some sort of a fee for these permits. Don't give them away. The last 50 years was a free ride. Don't give them another free ride, that's all I'm saying.

MS. GAFFNEY: Good afternoon. My name is Kaitilin Gaffney and I'm with the Center for Marine Conservation.

I wanted to start by really thanking you for having this meeting here today. I had some very serious process concerns related to this project that I raised approximately a month ago, I think a month and a day ago. And I very much appreciate you going to the extraordinary lengths to hold this additional meeting.

And I especially appreciate the efforts of the Public Adviser's Office to reach out to the community. I wish that had happened earlier so that we were all at the public workshop when the mitigation plan was originally being discussed. But I'm glad that we have this opportunity here today, and I think it's been very useful.

I am actually not going to be speaking on behalf of CMC, but am submitting a letter on behalf of eight local organizations: The Center for Marine Conservation; Save our Shores; Friends of the Sea Otter; the Otter Project; the Monterey Bay Chapter of the American Cetacean Society; the Ventona Chapter of the Sierra Club; Surfers Environmental Alliance; and Ecology Action.

And I have ten copies of that that I'm going to -- more, if you need them.

Essentially the letter that we are

submitting raises three points, and they are detailed. I'm not going to read the letter, I'll just highlight them for you.

The first concern that these eight organizations share relates to the adequacy of the final staff assessment. And some of the questions that were asked and answered here today, I think, really helped with some of our concerns.

Essentially the errata version, particularly in its strike-out, although I found the strike-out quite useful, actually, it is very confusing. And there are changes from the original that are not explained. And there's not evidence presented to justify those changes. And it makes it very difficult for the public to read that report, understand what's going on, and comment meaningfully.

I think it's an unnecessary confusion. And I think if some of the explanation that was offered here today is incorporated in the next version, whether it's another version or the final staff assessment or the preliminary determination, I think that's right, I think it's important that the justification and the reasoning behind staff's conclusions be provided so that the public really

has an opportunity to understand and to comment meaningfully. So, that's our first concern.

The second concern that I would like to raise has to do with consideration of alternatives that could avoid some of the entrainment impacts or reduce them.

And again we've discussed this here today. And some of the alternatives that we have brainstormed and offered may not be appropriate. One of the suggestions that we have in the letter is consideration of a further offshore intake. There may be very good reasons that we wouldn't like that if we knew what the impacts of that alternative were.

The alternative section, I think, needs some work. We need to know that the agency has seriously considered alternatives capable of avoiding impacts. And the public needs to be confident that the option being pursued is the best option, not just for energy production, but for the environment.

I can't tell whether or not that's true at this point. And so I ask, and the other organizations signed on this letter, urge that we have a more serious consideration of alternatives,

and better reasoning and justification for the alternatives selected.

Finally, I'd like to discuss the compensation package. And I use that language, as opposed to mitigation plan, because I don't think we have a mitigation plan yet. I think what we have is a check for $7 million.

And that concerns me because I think if we are not going to avoid impacts that we have described as being significant impacts on this very precious environment at Elkhorn Slough and Moss Landing and Monterey Bay National Marine Sanctuary, we need to be sure that we are mitigating them to the best we can.

And that means a mitigation plan that is specific, that is detailed, that is enforceable, that has built-in monitoring, that has performance standards and criteria that we know what we're aiming for, and we know if we're getting it. And if we're not getting it there has to be some kind of contingency plan built in with funding so that we can get it.

And in a situation like this I've heard, you know, various of the scientific advisers explain that it's very difficult to do a tight

link here between the impacts and the mitigation.

I think our goal needs to be as tight a link as possible, understanding that maybe that's not going to be, you know, exact loss of primary productivity, you can't quantify it perfectly. You can't get a perfect match.

We need to get as perfect as we can. And I would say initially what we want to look at is wetland mitigation. If we can't do wetland mitigation, then we're probably not compensating for loss of primary productivity.

Maybe we're still doing good things for the slough by doing erosion control, et cetera, but that's a looser link. And if we're going to make that job, it needs to be really clearly explained and justified. And we need to have performance standards for that so we know what we're getting and why we're getting it.

And, again, we need to make sure that we look, we monitor, and that we have a back-up plan if it fails.

I was doing some reading on mitigation and restoration projects in wetland environments, and the number I kept coming across in various articles was about 50 percent of these projects

succeed, maybe.

So, if we're looking at a number that's maybe 50 percent of these projects succeed, we need to know that. We need to know there's a great deal of uncertainty in trying to do restoration. We need to factor that in and we need to know what we're getting up front.

Thank you.

HEARING OFFICER FAY: Thank you, Ms. Gaffney.

MR. SILBERSTEIN: My name is Mark Silberstein with the Elkhorn Slough Foundation.

I wonder if I could take a minute and use the overhead projector to transmit an image here, is that possible?

(Pause.)

MR. SILBERSTEIN: And I'd like to again, you know, Kaitilin is very articulate, and I think she made some really good points. Some really good points about making sure that whatever the response is to the entrainment, that it is sound and provides some kind of lasting ecological value.

You know, I've listened to the scientific panel talk about the rationale. My

understanding is that you are using this concept of acreage as kind of an index of impact, as a way to get to some kind of dollar value.

You're trying to get from fish larvae cooked to some way to offset that. And so I had a few thoughts that I wanted to express.

This map was put together by some of the staff at the Elkhorn Slough Reserve and, Sara Connors, one of the graduate students at the Moss Landing Marine Lab.

And what it shows is sort of the segments of Elkhorn Slough. During the meeting one of the staff from the Coastal Commission asked me about total acreage in Elkhorn Slough. So we looked at the GIS. If you look at the Elkhorn Slough system, approximately 3000 acres of lands within the flood plane. If you look at Morro Coho Slough that has about 1000 acres.

Currently -- maybe I'm going to have to walk over here. I really do like to point.

One of the things that this map does it shows where culverts are located. You maybe can't see it quite so clearly, but these little dots indicate where culverts constrain flow of tidal water into and out of these segments of Elkhorn

Slough.

Elkhorn Slough today is a segmented system. It's remarkably productive. I mean it is, as you said, one of the truly remarkable wildlife habitats in North America.

Based on our understanding of the constraints for restoration in the system, and some of the concerns that Lou Calcagno raised about saltwater intrusion and the parallel concern about tidal scour from increasing tidal currents, based on this analysis there really is no place that you can restore 390 acres of tidally influenced land in Elkhorn Slough. All of the lands in Elkhorn Slough that can be tidally influenced are.

And so in terms of mitigation, if you're using 390 acres as an index to calculate value, that's useful. If you're using it to say you need to come up with 390 acres of new wetland, you can't do it for saltwater wetlands.

In the Morro Coho system it is possible to add several hundred acres, perhaps as many as 600 acres of fresh water wetlands. And the plan that I mentioned to you earlier, the County and Coastal Conservancy approved plan, identifies

those opportunities and lays out a strategy to do that.

But those wetlands, when they are restored will not be generating goby larvae. I think it's going to be a tremendous improvement of habitat and quality in Elkhorn Slough. You're not going to get goby larvae out of it. That may or may not be a problem.

I want to respond briefly to a couple of other points, and again, you know, this is -- I find myself in this awkward position. I don't want to be self-serving, I don't care what decision is made, how much money or who deals with it. I want to echo what Scott Hennessy said. Whatever we do with whatever amount of money or whatever amount of effort is generated by this process, let's put it work on the ground. Let's put it work so that it makes a lasting difference to the health of Elkhorn Slough. That's my job.

Two comments. One, about this nexus. Scott Hennessy argued for a broader view of the mitigation. I do, too. And for this reason: What you've told us, and what you've demonstrated by the biology, it will be incredibly difficult to get a link between numbers of larvae cooked and

ecological impact.

We could spend literally millions of dollars trying to answer those questions and trying to pinpoint, trying to make it precise. My argument is this: Every day I've tried to work back and forth around Elkhorn Slough. I see acreage disappearing. Acreage that's providing watershed habitat; it's cleaning runoff; it's providing habitat and refuge for some of the birds that use Elkhorn Slough. Every day I drive and I say where are we going to get the money to protect this now.

A dollar spent today, remember, is worth $10 in ten years. And the way real estate is going here, $1 today is worth $10 in two weeks.

So, from the land trust, when I put on my land trust and conservation hat, I see sort of a compelling argument to move pretty quickly. And to direct funds in a sensible way.

The issue about productivity, and this, I find myself when I sort of just detach myself, I find myself pontificating a little bit, but I'm not going to stop.

(Laughter.)

MR. SILBERSTEIN: In 1998 during the big

el ni§o storms, one 300-acre ranch bordering Elkhorn Slough eroded 11,000 cubic yards of sediment, 11,000 cubic yards of sediments came off this ranch. It filled up a wetland on the east side of Elkhorn Road, spilled over Elkhorn Road, put a huge delta on the National Esturine Research Reserve. And we could measure the fine grain sediment -- the coarse grain sediments which settled out, all the fine grain material washed into Elkhorn Slough.

In 1995 during the big floods when the Poplar River broke its levees, we had material sweeping down into Elkhorn Slough, all this fine grain material that had compounds like DDT, a lot of these polar compounds that aren't soluble in water, but that move attached to fine grain particles of clay and silt.

In 1995 we had the complete collapse of a breeding colony of Caspian terns. It had grown to over 150 breeding pairs. One of the graduate students at Moss Landing studied those. She had been studying them for several years.

When she analyzed the egg shells and the deformed embryos that she collected on the site, tremendous levels of DDT and PCBs.

Here's my argument: You can spend a lot of money trying to nail down the link between cooked larvae and production in Elkhorn Slough. And I'm not sure how much it would cost. How much did it cost to count these cooked larvae? What was the budget on that? I mean, one million? two million?

Right now you can buy an acre of wetlands in Elkhorn Slough for -- restorable wetlands for about $3000 an acre. You can buy unsubdivided uplands for about $5000 an acre. Strawberry fields are going to be more expensive.

But here is a case where you have a direct link, a direct link between where you can spend a dollar and what the effect will be on the environment.

We can spend a lot of money counting more larvae. Let's buy land. I mean it just makes sense to me. We can do it directly. We can have a strong impact. I think we can work without spending a lot of money on getting this nexus between the health of Elkhorn Slough and some kind of mitigation. How much? I mean, the more the merrier, as far as I'm concerned. You guys need to figure that out.

But, you know, I just had to express the fact that we could spend millions of dollars pursuing this tenuous linkage. Or we can act directly with whatever resources come through this process, and make a lasting difference.

I love these microphones.

(Laughter.)

MR. SILBERSTEIN: Thank you very much.

HEARING OFFICER FAY: Thank you for your comment. Any other comments?

LCDR FINN: Hi, my name's Michele Finn. I'm the Assistant Manager at the Monterey Bay National Marine Sanctuary.

And I want to echo Kaitilin's thanks for you folks providing us some extra time to review the pertinent documents, and provide comments.

I want to either remind folks around here, or educate them on exactly what the Monterey Bay National Marine Sanctuary is. We're a federal organization that's under the NOAA umbrella, that's the National Oceanic and Atmospheric Administration, which is under the Department of Commerce. So I'm a federal employee.

The Monterey Bay National Marine Sanctuary actually has jurisdiction over Elkhorn

Slough. We pick up Elkhorn Slough just east of the Highway 1 bridge, and part of, to use your overhead there, we pick up the Elkhorn Slough east of the Highway 1 bridge, and we're responsible for all the tidally affected waters in the Elkhorn Slough.

We're also, you know, you guys have all probably seen our sanctuary chart. We've got this kind of funky diagram offshore. It ranges from, you know, 20 miles offshore to 50 miles offshore, just kind of basic distances, from north of the Golden Gate Bridge down to Cambria.

Around Elkhorn Slough we pick up the waters, mean high tide out probably 50 miles, with the exception of border, or kind of like a little buffer zone around the harbor. That buffer zone, coincidentally, the outfall falls within the harbor, what's considered the harbor and not the sanctuary.

So that's kind of a little description of how we're involved in this, what concerns we have, how to try to be limited to what our authority is. So when it comes to our regulations luckily for you guys you're not discharging or depositing directly into the Monterey Bay National

Marine Sanctuary.

However, we have this pesky little regulation that says that discharging or depositing from beyond the boundary of the Sanctuary any material or other matter that subsequently enters the Sanctuary and injures a Sanctuary resource or quality is prohibited.

So that's where our concerns lie. It's mainly with the thermal discharge. And we've been able to review the technical analysis of the potential thermal effects. And while we don't necessarily have any objections to the analysis that was done, the fact that it basically contains modeling estimates of potential effects kind of has some limitations on that.

We don't really know the veracity of the modeling results and we won't until the plant comes on line. With basically double the amount of hot water discharged into the Sanctuary we want to know once the plan is operational if the effects have been less than significant as you guys have projected.

The difficulties with untangling the effects of the thermal discharge from dredged soil and tidal flux in that area are just that, they're

difficulties. And we can't let a difficult problem lead to an impact determination of not significant.

One thing that the modeling analysis has a hard time predicting is the cumulative effect of entrainment loss and thermal effects. These would be effects on the entire slough nearshore ecosystem. And we're really concerned and have questions about what the actual effects of 13 percent larval entrainment and the hot water plume has on the mouth of the slough.

Based on these concerns we believe it's prudent and essential that Duke fund a biological monitoring program to verify the true facts of the thermal discharge.

And we think the necessary work would cost between $450,000 and $600,000. And this would provide for anywhere from $75,000 to $100,000 per year for six years.

The baseline studies, if they were to begin immediately, would provide two years of control work, and then four years afterwards for an actual study.

We believe that those funds would best be provided to the Monterey Bay Sanctuary

Foundation or the Elkhorn Slough and administered as part of the overall mitigation package. But these details can be worked out in the future.

Regarding the mitigation package, we understand how the confusion arose for the environmental groups and the public, specifying that the determination was made on 390 acres of wetland kind of led people to believe that there was an intention to buy 390 acres and restore that wetland.

So there was some concern, obviously, that has already been addressed, that the funds were not -- may not be appropriate for that purpose, and that it may not be enough to actually buy the wetland and to restore them.

We also understand Duke's view that $7 million is a lot of money. And that if it's used wisely it may be able to mitigate for the potential effects.

The key points that we see that need to be addressed is this fund should be managed as a single fund, and should not be split up into little pots of money. That's very important.

And then the funds should be managed by a small group of agencies, and we really like to

stress that the Sanctuary should be a part of that board. We feel that we have some expertise that would be beneficial in designing a mitigation package that would actually mitigate.

That said, we believe that there should be a conservation group, at least one conservation group on the board, and that it should be kept to a very small number of people.

We also believe that the fund should be focused on a set group of projects. The projects need to include activities beyond just buying property and restoring it. We believe that the activities should include research and enhancement projects.

I kind of disagree with the idea that research and monitoring aren't beneficial. Seems to me that to figure out whether we're successful in our efforts is pretty important; and it's also something that could be packaged and used elsewhere. So as part of a federal agency, research and monitoring are actually beneficial for what my overall mission is.

If, in order to accomplish these focused projects, to mitigate the impacts, it costs more than $7 million, we think that Duke should pay

that. Conversely, if it costs less, we don't think that they should have to pay more than $7 million. So we want this project to mitigate; we want it to be successful. And we don't want there to be necessarily a set cap on the money.

It seems that Duke wants certainty about the mitigation costs. If this is true, then we would advocate that the estimates be higher for the mitigation package. The agencies and the environment should not be short-changed because somebody wants certainty on the full package.

All of this, the mitigation package, the fundings, and the board members, needs to be set in writing before the permit is issued.

We believe that this is an eminently permittable project, and that we're really really close. And we hope that everybody can kind of hang tough and hold together to make it work.

Thank you.

HEARING OFFICER FAY: Thank you. Ms. Finn, do you have those comments in writing?

LCDR FINN: No, I don't.

HEARING OFFICER FAY: Okay.

LCDR FINN: I will give them to you.

HEARING OFFICER FAY: You mean send them

in later?

LCDR FINN: That's right.

HEARING OFFICER FAY: Oh, great, thank you. Other comments? Yes, sir.

MR. SHIMEK: Good afternoon. First of all, thank you for having this hearing. I think that this hearing is above and beyond the process, as it was envisioned. And my name is Steve Shimek. I'm Executive Director of the Otter Project. I apologize. So, thank you for having this meeting.

This is above and beyond what you needed to do, but I do think that when you get down to what needed to happen, this meeting needed to happen.

I think that the reason that there's all this concern is all of us feel that Elkhorn Slough is a very special place. And, you know, I think that it's kind of right at the confluence of the Monterey Submarine Canyon. Maybe that doesn't make any difference to Duke or to the slough or the biology, itself, but we're right at this nexus of all these great things that happened both in the Submarine Canyon and onshore.

And that's why it's this incredibly

important place to us. And that's why there's all this public opinion and questioning of you. The questioning is healthy.

I got this from one of the brochures so I hope it's correct. I did not, you know, go to source. But, it said that for many years the slough held the record for the most bird species seen in a single day, 116 species of birds seen in a single day. I mean, can you imagine?

And that is diversity, but that's because of the productivity, partly. It's also because of the geography. But it's also because of the productivity. And it's the productivity that we're talking about affecting here.

So that's why this is near and dear to us. You know, this place held the record for a long time of birds, which everyone enjoys. And we're about to affect that in a negative way.

So basically we look at the biological report. It was really interesting, it was kind of disappointing actually. I mean I think that the players that are all involved here, the biologists that are involved are the right people.

I think Duke has the ability to be the right corporate partner, as we try and work

through these issues. I think Duke could be a good partner in all this.

But I was disappointed the other day when I received a fax and it was a fax of a letter sent to the Energy Commission saying that, boy, the conservation community had plenty of time to comment, we had seen this stuff for two months. That's what it said, for two months.

The biological report came out 30 days ago, about. And boy, we were on it. In other words, the biological report came out and we were there. And we were there commenting constructively and actively. We were not late. And for Duke to say you're coming in late, why weren't you guys on top of it is simply wrong.

So, when it gets to the biological report let's talk about it for a second. First of all, there's a total lack of listing and evaluation of project alternatives. And that would negate or reduce the impacts.

Boy, I think that that -- I'm not a lawyer. I'm kind of lawyer-averse, but I thought that was a requirement of this process. That you had to look at project alternatives. And to strike them out of the public documents, which is

what they have done in the errata, the alternatives are stricken out. I'm not sure that that's appropriate.

So, the project alternatives have to be looked at, have to be evaluated. And the impacts of those alternatives have to be spelled out in the public document.

Secondly, I think that you do have to look at those secondary impacts on the biology. I didn't have the chance to ask a follow-up question to Greg, so maybe I will right now. Greg, wasn't -- okay, you said that 88 percent of the fish were gobies.

MR. CAILLIET: Larvae.

MR. SHIMEK: Fish larvae, but is that of the total larval or biomass in the sample, or is that just the fish life?

MR. CAILLIET: My number of fish larvae totally entrained.

MR. SHIMEK: Right. So that's number of fish larvae. Do you have any idea how that relates to the total biomass of the sample? What I'm getting at is --

MR. CAILLIET: No. But all the larvae that we're talking about that are entrained are

about the same size, Steve, they're about 3 to 5 mm, even the non-gobies are about that size.

MR. SHIMEK: No, but I'm talking about the mass. What I'm getting at --

MR. CAILLIET: The numbers are proportional to the mass. So if you take the total number and you add them all up and you say that 80 percent by number were goby larvae, that's probably very close to 80 percent of the biomass of all the larvae, as well.

(Parties speaking simultaneously.)

MR. SHIMEK: For all the total planktonic biomass --

MR. CAILLIET: Fish, fish, fish --

MR. SHIMEK: Right. Right. See, what I'm getting at is that the fish were used as proxy for other species. And so when you look at, you know, it's very intuitive that, boy, if you kill a quarter, let's say, of all the clam larvae that go through this thing, and sea otters eat clams, that you might impact sea otters.

And I've run this by several other marine biologists, including biologists at the lab, Moss Landing, and they say intuitively that's correct. Do we know that that's the case? We

don't know. Because we haven't looked at the secondary impacts of entrainment.

So we don't know. And doesn't that scare you? It scares me.

Another thing that I find disturbing is the lack of the nighttime data, and I won't spend a lot of time on this, but it says, boy, source water sampling was done only really in the daytime. And that because of safety reasons, Greg will remember, and I don't know if Peter was around at the time or not, but I was a winch operator when Mary Silver -- we used to do the CalCoffee Cruises and we didn't have the big boat then, it was an ocean-going tug that we used, that you had to wear hip boots on board because the deck went awash.

And so I was the guy when we did water sampling. You could have filmed scenes from "The Perfect Storm" on that boat, you know. And so that was water sampling. That was dangerous water sampling. To say that it's too dangerous to collect water samples from the slough at night, I'm not sure I buy that.

And so what that points to me, where that points me is a lack of will. Not a lack of

the ability to do it.

I see that also in the lack of evaluation of the thermal plume impacts. Stricken out is monitoring of these thermally affected systems in order to determine effects with any level of confidence is considered difficult due to many confounding fact, so that's stricken out. I agree it would be difficult.

But I also know this is taken from an, I think M.B. Quartz' website. There are 20 major ocean sciences facilities in the Crescent Shaped Rim and Monterey Bay. Collectively they employ 1700 people. They have an annual budget of $138 million.

Some of these people are the world leaders when it comes to ocean currents on the microscale, as well as on the macroscale. We have the ability to measure, I believe, those impacts on the system.

So, again, I think it -- we didn't want to spend the money to do that work. So to me, it points to a lack of will, not to a lack of ability. I think we have the ability.

And then finally the mitigation. And I'm not really willing to call it mitigation plan.

I think we've heard from the panel here the importance of restoring 390 acres of wetlands. And, boy, how that's going to replace the productivity that we lose.

But then we've heard, you know, a variety of opinions on, no, no, that's not the approach. So we kind of have two views going on here. One view is a very loose view which says, boy, let us just go out and do the right thing, we promise to do the right thing; you know, we will do the right thing.

And I believe that the Elkhorn Slough Foundation, they're a great partner, and they have the ability to do the right thing. Is their plan, though, going to mitigate these impacts? And I think, it's my personal opinion that we should get hung up on that, because I think legally, again, we have to.

You have to mitigate the impacts of the project. You can't just allow people to go out and do the right thing. You have to mitigate the impacts of the project.

And, boy, I think that that's so important because especially once we start talking about the secondary impacts that some of these

things will -- that these actions will have, it's important to then go out and mitigate as close to the impact as you possibly can. Because that's the only way you're going to also mitigate some of the secondary impacts that you haven't even studied.

So, it's so important to be as close as you possibly can to mitigating the impact that you are having on the slough. The biologists are the right biologists; Duke is the right partner; Elkhorn Slough Foundation is the right partner; the conservation community here is active and wants to take a role. The right people are in place. We just have to step up and finish the work.

Putting a check on the table is not finishing the work. We want to see a mitigation plan. If we can't see a mitigation plan, let's at least see some performance criteria that we are trying to attain. All right.

And in that way you can move ahead without a detailed plan, and you can have some of the flexibility, but at least you have performance criteria that you can move forward and evaluate whether or not you're getting there.

Personally I am in support of the project. I want the project to happen. It will bring benefit. But personally when I look at the biological report and I see so many gaps, and when I see that the mitigation plan isn't really a plan, it's a check, my only option is to not support it right now. And I want to support it.

Give us some performance criteria with which to mitigate against. Thanks.

HEARING OFFICER FAY: Thank you, Mr. Shimek. Any other comments? Yes, sir.

DR. SMESTAD: Greg Smestad again from the Monterey Institute. My comment is that there are other methods besides looking at area basis for valuing ecosystems; two that I've come across that have actually gotten into the popular press and into "Discover" magazine.

One by Robert Costanza and coworkers, and that was published as a cover article in "Nature" a few years ago. The other was by David Pimental and coworkers, as well, from Cornell. And they looked at valuing various types of ecosystems, in particular wetlands, for the functions that they allow such as the cleaning of water, tourism, gas exchange, et cetera, et

cetera.

So I would challenge maybe the basic assumption of looking at the value of the Elkhorn Slough in terms of on an aerial basis and say that perhaps this also should be looked at with some of these other measures which I have to also say are measures that have been looked at on an international basis at various wetlands around the world.

Thank you.

HEARING OFFICER FAY: Thank you. Anybody else?

MS. MENDONCA: The Public Adviser received a phone message from Bill Allayaud, A-l-l-a-y-a-u-d, a Santa Cruz resident.

And his concern had to do with a point actually I believe was raised earlier; he felt that it would be possible, instead of using the $7 million in a mitigation package, to consider moving the pipeline out into the ocean, thereby saving damage to the slough.

And so he wanted that comment brought into the record.

And I also have a second letter that I'll submit for the docket unit from the Marine

Mammal Center. And the Marine Mammal Center is a nonprofit organization, currently has a facility which tends to injured mammals, marine mammals. They are currently located on the site. The Duke construction will impact where they're currently located, and Duke has been extremely helpful in helping them relocate. And they are pleased with that outcome.

HEARING OFFICER FAY: Okay. Last call. All right, we've taken lots of comments from people, and I think it's great that, especially since Commissioner Moore can be here, that one of the decision-makers heard this.

I just want you to know, he had to leave to catch a plane to Oxford, England, to accept the award of a PhD from Oxford University. And so he had a good reason for leaving. He's been working very hard on that.

Closing remarks?

MR. SEEDALL: Mark Seedall with Duke Energy. I just wanted to make one comment. I heard a number of concerns regarding the alternatives analysis. I just wanted to let people know that there's a 316-B report. This report was put out in draft form January of this

year, under section 7.

In particular -- section 7 of that report discusses alternatives, and in particular, some of the ideas of intakes being located further out in the bay were all discussed within that chapter. And again, that's been available, I think docketed at your offices, again, since January of this year.

HEARING OFFICER FAY: The 316-A report.

MR. SEEDALL: The 316-B report.

HEARING OFFICER FAY: B? Okay.

MR. SEEDALL: Yeah. And I think the thermal report, also, is available --

HEARING OFFICER FAY: Yeah, and they --

MR. SEEDALL: -- cover similar areas on all --

HEARING OFFICER FAY: You can look at those on the Energy Commission's website.

Anything from the staff, or the panel?

MR. ANDERSON: We appreciate everybody's comments. Everybody is concerned and cares, and that's good. And a lot of the things I've heard today, believe it or not, we've heard before, and we've got it covered; if you'd just look at some of it a little more closely.

Things we don't we'll try to include. And I explained earlier, we're going to put together a group and we're going to look at what can we do, what should we do, and how should we do it. So it addresses a lot of concerns of people that made comments.

The plan will be written and it will be circulated for review. We're going to have a lot of chances to make sure we do the best thing we can with the funding.

HEARING OFFICER FAY: And in terms of our process, just chronologically, I think the next thing we expect to see is the letter from the Coastal Commission. Supposed to come in tomorrow.

Then Monterey County will be sending us their recommendations.

The Committee anticipates getting its Presiding Member's Proposed Decision out during August. That will be available for a 30-day comment period.

We'll have a conference down here before the close of the 30-day comment period where we'll have a similar event and you'll be able to comment on the proposed decision specifically.

You may also address the full Commission

after that. I'm sure they'll meet in Sacramento, but if you think we still missed something. And, of course, at anytime you can send in a letter or an email to comment on the proceeding.

And then what Dick Anderson just mentioned, if there is a post-certification process mandated, that a panel of experts would be working on the details of a plan of how to implement the mitigation. Then they would be asking for comments from the concerned community on their process.

So, I think it's going to be a very interactive process, as it goes along. And it certainly is not behind closed doors.

So, I want to thank you all for coming. And we are adjourned.

(Whereupon, at 3:30 p.m., the Committee Conference was adjourned.)

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CERTIFICATE OF REPORTER

I, DEBI BAKER, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Committee Conference; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said conference, nor in any way interested in outcome of said conference.

IN WITNESS WHEREOF, I have hereunto set my hand this 25th day of July, 2000.

DEBI BAKER